"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

GABOVICH, R. D., et al., "Meditsina" 1971, 432 pp

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1/2 027 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--NMR AND EPR SPECTRA OF EUCRYPTITE AND SPODUMENE SYNTHETIC CRYSTALS -U-

AUTHOR-(03)-DMITRIYEVA, L.V., ZONIN, Z.N., SHAKHDINAROV, G.M.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(1) 42-5

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--NUCLEAR MAGNETIC RESONANCE, ELECTRON PARAMAGNETIC RESONANCE, CRYSTAL LATTICE STRUCTURE, IRON, LITHIUM, CRYSTAL IMPURITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1980/0238 STEP NO--UR/0181/70/012/001/0042/0045

CIRC ACCESSION NO--AP0048517

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

2/2 027 UNCLASSIFIED

CIRC ACCESSION NO--AP0048517 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NMR SPECTRA WERE INVESTIGATED OF PRIME7 LI IN BETA EUCRYPTITE AND THE PRESENCE IS SHOWN OF 2 PHYS. NONEQUIV. POSITIONS OF LI IN THE LATTICE. THE QUADRUPOLE INTERACTION CONSTS. FOR LI(I) ARE E PRIME2 QQ-H EQUALS 125 KHZ, ETA EQUALS 0.60 AND FOR LI(II) ARE E PRIME2 QQ-H EQUALS 57 KHZ, ETA EQUALS 0.72. THE AXES OF THE 2ND CENTER DO NOT COINCIDE WITH THE CRYSTALLOGRAPHIC AXES. INVESTIGATION OF THE CRYSTALS OF BETA EUCRYPTITE CONTG. FE IMPURITY SHOWS THAT FE PRIME3 PLUS IONS CAN ENTER INTO VARIOUS LATTICE POINTS. THREE CENTERS OF THE ORTHORHOMBIC SYMMETRY WERE OBSD. WHICH DIFFER BY THE CONSTS. OF THE SPIN HAMILTONIAN AND ORIENTATION OF THE MAGNETIC AXES. FOR FE PRIME3 POSITIVE(I); B SUB2 PRIME0 EQUALS 2.55 GHZ, B SUB2 PRIME2 EQUALS 0.42 GHZ, FOR FE PRIME3 POSITIVE(II): B SUB2 PRIME0 EQUALS 10.2 GHZ, B SUB2 PRIME2 EQUALS 9.5 GHZ; FOR FE PRIME3 POSITIVE(III): B SUB2 PRIME0 EQUALS 5.94 GHZ, B SUB2 PRIME2 EQUALS 4.37 GHZ. PRELIMINARY RESULTS WERE OBTAINED ON EPR OF FE PRIME3 POSITIVE IN BETA SPODUMENE.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

UDC 621.372.832.8(088.8)

SHIMKO, A. A., SHAKHGEDANOV, V. N., STOLYAROV, A. K., VOLMAN, V. I.

"Waveguide Y-Circulator"

USSR Author's Certificate No 252428, Filed 17 May 68, Published 12 Feb 70 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9B136P)

Translation: The proposed circulator is executed from a symmetrical waveguide T-junction in the center of which there is a magnetized ferrite element perpendicular to the wide wall of the waveguide. The latter is surrounded by one or several metallic cylinders arranged symmetrically with respect to the axis of the T-junction on the wide walls of the waveguide. The ferrite element together with the metallic cylinders forms a low Q-factor resonator tuned to the first harmonic of the electric field (the resonator for the TM_{110} type wave). This field component is amplified and it creates favorable conditions for excitation of electromagnetic energy in the open arm of the circulator. The matching of the input and output channels of the circulator is improved, and this means the standing wave coefficient is reduced and the decoupling is increased. The circulators in the 3-cm range have 25 decibel decoupling, 0.5 decibel losses, a standing wave coefficient < 1.1 in the frequency band up to 1,000 megahertz. These parameters are retained in the band on the order of 600 megahertz on variation of the

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

SHIMKO, A. A., et al., USSR Author's Certificate No 252428, Filed 17 May 68, Published 12 Feb 70 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9B136P)

ambient temperature from -10 to +50° C even when using an ordinary ferrite. It is noted that the circulator design is simple to manufacture and tune, and it insures identity of the parameters during series manufacture. There are three illustrations.

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172 022 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--ANTISMOKE ADDITIVES FOR DIESEL FUEL -U-

AUTHOR-(05)-KULIYEV, A.M., ALIYEV, Z.E., AGAYEVA, S.M., SHAKHGELDIYEV, M.A., VARSHAVSKIY, I.L.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,843

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--03MAR70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--FUEL ADDITIVE, DIESEL FUEL, CHEMICAL PATENT, PHENOL, FORMALDEHYDE, CONDENSATION REACTION, ANTISMOKING PROGRAM, ORGANOBARIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1343

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128750

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2/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AA0128750
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BA SALT OF A CONDENSATION PRODUCT OF AN ALKYLPHENOL WITH HCHO IS USED AS AN ANTISMOKE ADDITIVE FOR DIESEL FUEL. FACILITY: INSTITUT KHIMII PRISADOK AN AZERBAYDZHANSKOY SSR.

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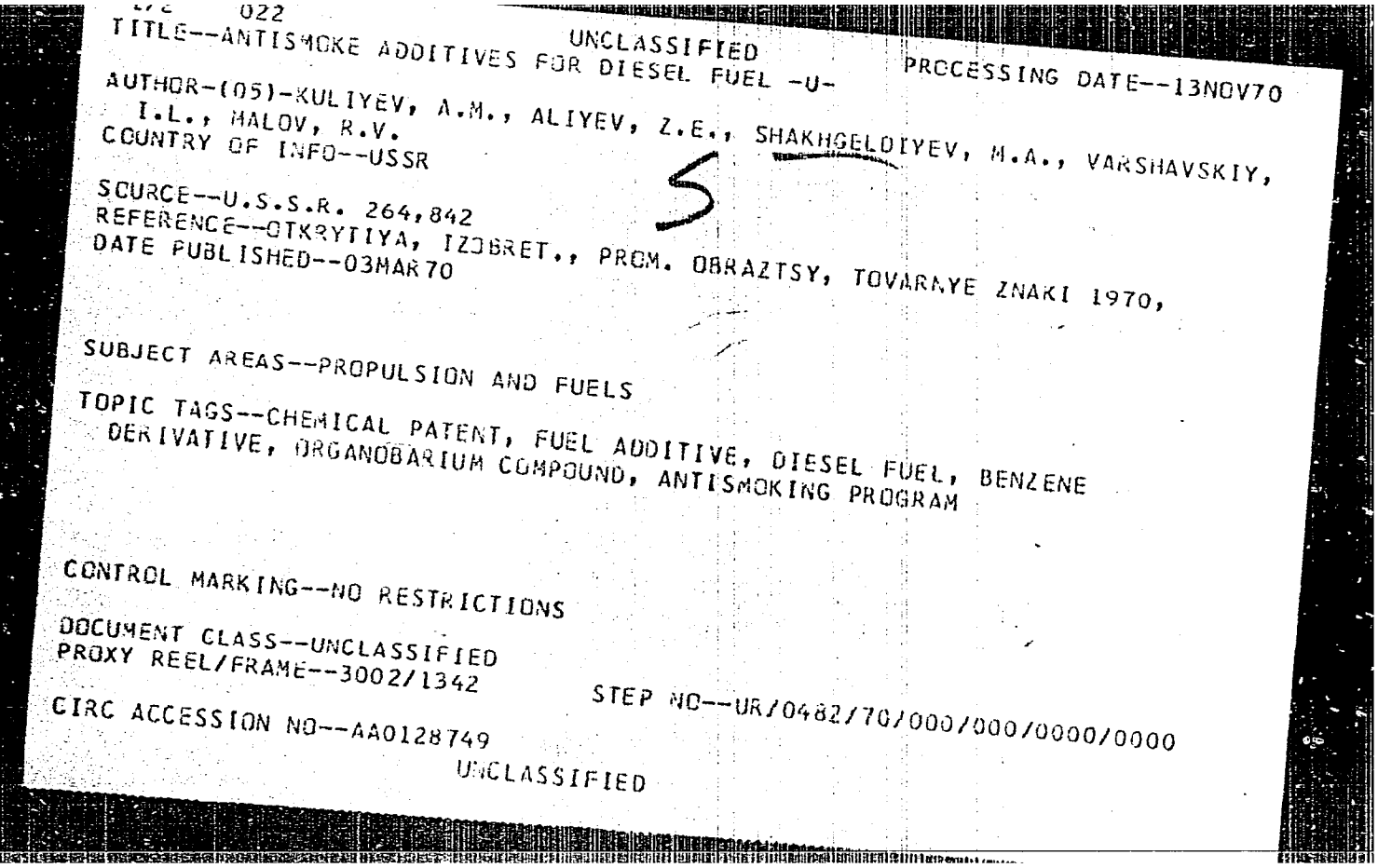

022 UNCLASSIFIED

TITLE--ANTISMOKE ADDITIVES FOR DIESEL FUEL -U- PROCESSING DATE--13NOV70

AUTHOR-(05)-KULIYEV, A.M., ALIYEV, Z.E., SHAKHGELDIYEV, M.A., VARSHAVSKIY, I.L., MALOV, R.V.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,842

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--03MAR70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--CHEMICAL PATENT, FUEL ADDITIVE, DIESEL FUEL, BENZENE DERIVATIVE, ORGANOBARIUM COMPOUND, ANTISMOKING PROGRAM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1342

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128749

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

2/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0128749

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A HIGH ASH BA ALKYLPHENOLATE IS USED AS A SMOKE INHIBITOR FOR DIESEL FUEL. FACILITY: INSTITUT KHIMII PRISADOK AN AZERBAYDZHANSKOY SSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--RADIOPROTECTIVE ACTION OF SOME ANTIOXIDANTS OBTAINED FROM PETROLEUM PRODUCTS -U-

AUTHOR-(04)-KAREYEV, A.I., GASANOV, G.I., MEKHTIYEVA, S.M., SHAKHGELDIYEV, M.

COUNTRY OF INFO--USSR

SOURCE--BIOL. NAUKI 1970, (5), 47-55

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RADIOPROTECTIVE ACTION, GASOLINE ANTIOXIDANT, PETROLEUM PRODUCT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3009/0190 STEP NO--UR/0325/70/000/005/0047/0055

CIRC ACCESSION NO--AP0139053

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

2/2 014 UNCLASSIFIED

CIRC ACCESSION NO--AP0139053 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OF 5 AROMATIC QUATERNARY AMMONIUM SALTS TESTED, ONLY N,N,DIMETHYL,N, PROPYL,(2,HYDROXY,5,BUTYL)BENZYLAMINE WAS APPRECIABLY RADIOPROTECTIVE, AS INDICATED BY ITS EFFECT ON THE OXION.-REDN. POTENTIAL OF THE TIBIAL TRICIPITAL MUSCLE OF IRRADIATED RATS, THE RATE OF BETA-CAROTENE OR OLEIC ACID OXION. IN VITRO, AND ON THE SURVIVAL RATE OF IRRADIATED RATS. OF 8 PHENOL DERIVS. TESTED, ONLY O,TERT,BUTYL,P,METHOXYPHENOL OR A MIXT. OF THIS AND N,TERT,BUTYL,P,METHOXYPHENOL WERE RADIOPROTECTIVE BY THESE CRITERIA.

FACILITY: INST. FIZIOL., BAKU, USSR.

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Navigation Aids

USSR

UDC 621.396.967-505.5

SHAKHGIL'DYAN, V. V., BURDZEYKO, B. P.

"Synthesis of Control Circuits for a Radiotachymeter With Variable Repetition Frequency"

Moscow, Radiotekhnika i Elektronika, vol 16, No 11, Nov 71, pp 2091-2097

Abstract: The authors consider the problem of synthesizing the frequency control circuit and smoothing circuits in a radiotachymeter with variable repetition frequency. The parameter to be measured -- delay time -- is assumed to be a random diffusion process. The quasistationary state is considered when the structure of the tachymeter is partially given. The structure of the control network is found in the Gaussian approximation. Three figures, bibliography of five titles.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

UDC: 621.391:519.2

SHAKHGIL'DYAN, V. V., IGNATOV, Yu. F.

"Quasi-Optimum Reception of FM and PM Signals With Non-Gaussian A Priori Statistics"

V sb. Metody pomekhoustoychivogo priyema ChM i FM (Methods of Interference-Free FM and PM Reception--collection of works), Moscow, "Sov. radio", 1970, pp 56-61 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A86)

Translation: The structure of a quasi-optimum receiver of frequency-modulated and phase-modulated signals is synthesized by methods of the theory of conditional Markov processes. It is assumed that the a priori statistics of the modulation signal are non-Gaussian. Specific definition of the filtration equations leads to systems of automatic frequency control with nonlinear control circuit. Specific examples are given of filtering of a clipped FM signal and a PM signal with non-Gaussian a priori statistics. The results are compared with data for filtration of a signal with Gaussian a priori statistics. In this case the use of a nonlinear control circuit does not give any appreciable advantage with respect to filtration quality. However, a special example is given where the effectiveness of nonlinear filtration over linear filtration is demonstrated. Resumé.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR S

UDC 621.372.061

SHAKHGILDYAN, V. V., IGNATOV, YU. F.

"Investigation of the Effect of Noise on the Operation of an Automatic Phase Frequency Control"

Tr. Mosk. elektrotekhn. in-ta svyazi (Works of Moscow Electrotechnical Communications Institute), 1970, vyp. 1, pp 104-108 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9A49)

Translation: This article contains a study of the statistical properties of an FAPCh [automatic phase frequency control] system with a proportional integrating filter. The bibliography has seven entries.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

UDC 621.391:519.2

SHAKHGILDYAN, V. V., LOKHVITSKIY, M. S.

"Shaping the a Posteriori Probability Density of Signal Parameters with Unknown a Priori Information"

Tr. Mosk. Elektrotekhn. in-ta svyazi (Works of Moscow Electrotechnical Communications Institute), 1970, vyp. 1, pp 108-111 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9A41)

Translation: This article contains an investigation of the problem of estimating the parameters of exponential distribution on the basis of an unclassified sampling as applied to the problem of receiving signals with a priori insufficiency. The formula is derived for the a posteriori distribution density of the signal. It is demonstrated that the desired reception problem can be solved with the help of an adaptive self-adjusting receiver. The bibliography has three entries.

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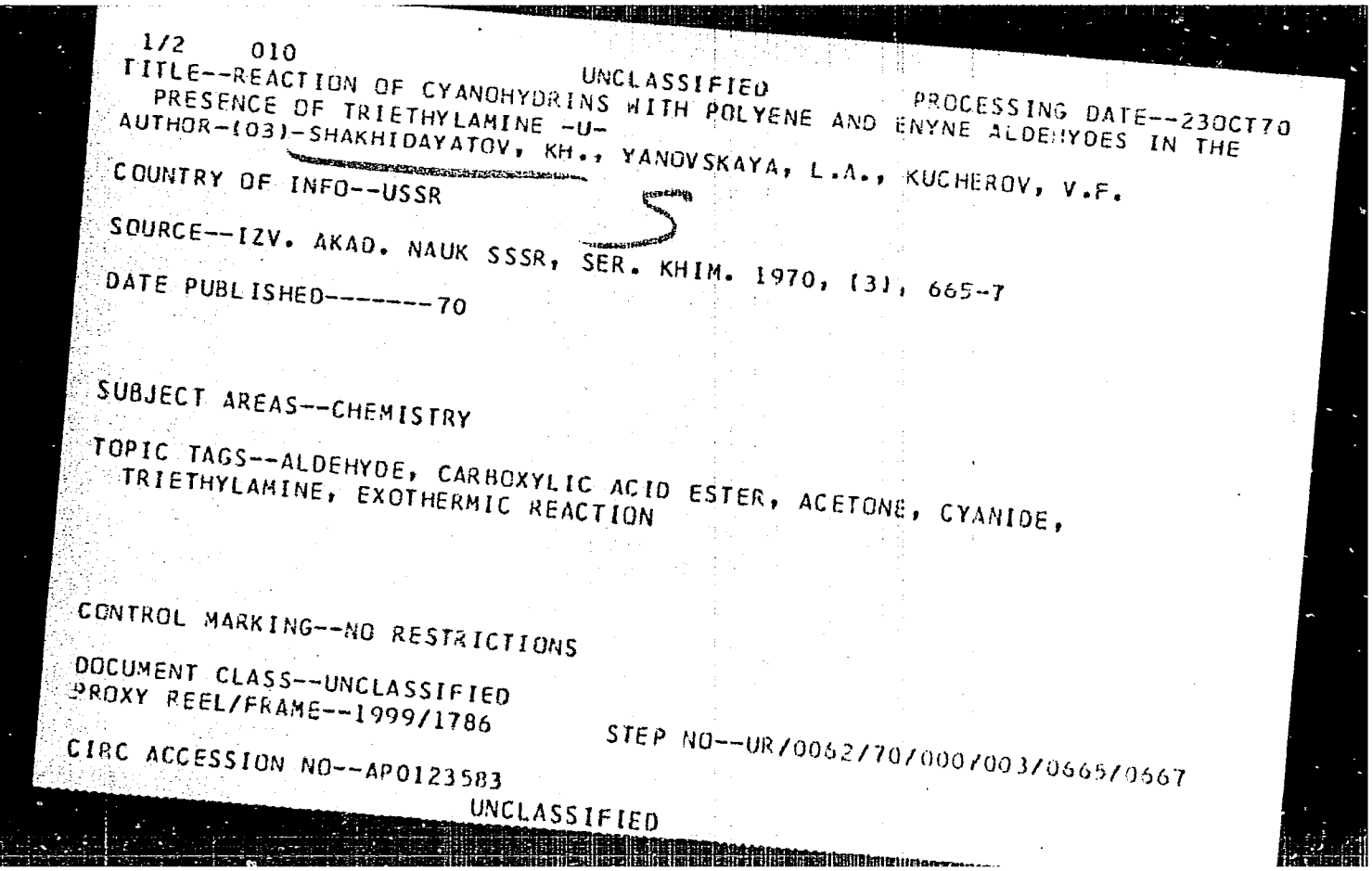

1/2 010 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--REACTION OF CYANOHYDRINS WITH POLYENE AND ENYNE ALDEHYDES IN THE PRESENCE OF TRIETHYLAMINE -U-

AUTHOR-(03)-SHAKHIDAYATOV, KH., YANOVSKAYA, L.A., KUCHEROV, V.F.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 665-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALDEHYDE, CARBOXYLIC ACID ESTER, ACETONE, CYANIDE, TRIETHYLAMINE, EXOTHERMIC REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1786 STEP NO--UR/0062/70/000/003/0665/0667

CIRC ACCESSION NO--AP0123583

UNCLASSIFIED

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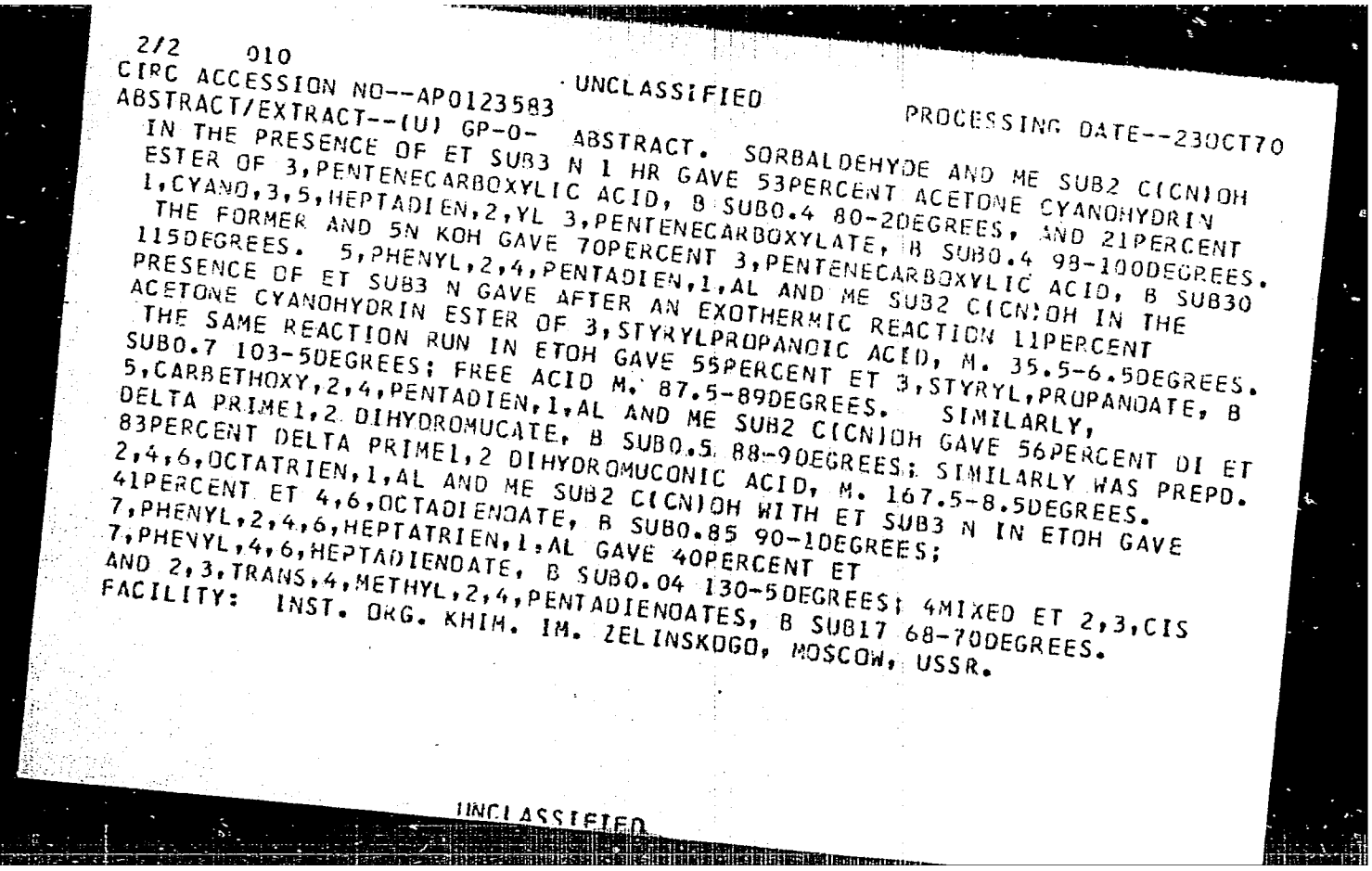

2/2 010 UNCLASSIFIED
CIRC ACCESSION NO--AP0123583 PROCESSING DATE--23OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SORBALDEHYDE AND ME SUB2 C(CN)OH IN THE PRESENCE OF ET SUB3 N 1 HR GAVE 53PERCENT ACETONE CYANOHYDRIN ESTER OF 3,PENTENECARBOXYLIC ACID, B SUB0.4 80-2DEGREES, AND 21PERCENT 1,CYANO,3,5,HEPTADIEN,2,YL 3,PENTENECARBOXYLATE, B SUB0.4 98-100DEGREES. THE FORMER AND 5N KOH GAVE 70PERCENT 3,PENTENECARBOXYLIC ACID, B SUB30 115DEGREES. 5,PHENYL,2,4,PENTADIEN,1,AL AND ME SUB2 C(CN)OH IN THE PRESENCE OF ET SUB3 N GAVE AFTER AN EXOTHERMIC REACTION 11PERCENT ACETONE CYANOHYDRIN ESTER OF 3,STYRYLPROPANOIC ACID, M. 35.5-6.5DEGREES. THE SAME REACTION RUN IN ETOH GAVE 55PERCENT ET 3,STYRYL,PROPANOATE, B SUB0.7 103-5DEGREES; FREE ACID M. 87.5-89DEGREES. SIMILARLY, 5,CARBETHOXY,2,4,PENTADIEN,1,AL AND ME SUB2 C(CN)OH GAVE 56PERCENT DI ET DELTA PRIME1,2 DIHYDROMUCATE, B SUB0.5 88-9DEGREES; SIMILARLY WAS PREPD. 83PERCENT DELTA PRIME1,2 DIHYDROMUCONIC ACID, M. 167.5-8.5DEGREES. 2,4,6,OCTATRIEN,1,AL AND ME SUB2 C(CN)OH WITH ET SUB3 N IN ETOH GAVE 41PERCENT ET 4,6,OCTADIENOATE, B SUB0.85 90-1DEGREES; 7,PHENYL,2,4,6,HEPTATRIEN,1,AL GAVE 40PERCENT ET 7,PHENYL,4,6,HEPTADIENOATE, B SUB0.04 130-5DEGREES; 4MIXED ET 2,3,CIS AND 2,3,TRANS,4,METHYL,2,4,PENTADIENOATES, B SUB17 68-70DEGREES.
FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--MECHANISM OF THE CONVERSION OF ALPHA, BETA UNSATURATED ALDEHYDES INTO ESTERS OF SATURATED ACIDS UNDER THE ACTION OF CYANOHYDRINS IN THE

AUTHOR-(03)-SHAKHIDAYATOV, KH., YANOVSKAYA, L.A., KUCHEROV, V.F.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 581-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ALDEHYDE, CYANIDE, TERTIARY AMINE, DEUTERIUM COMPOUND, MASS SPECTRUM, PROPIONIC ACID, ESTER, CHEMICAL REACTION MECHANISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0745 STEP NO--UR/0062/70/000/003/0581/0586

CIRC ACCESSION NO--AP0124415

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2/2 018 UNCLASSIFIED

CIRC ACCESSION NO--AP0124415 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TREATING ME SUB2 C(CN)OH WITH D SUB2 O 3-5 DAYS GAVE A PRODUCT CONTG. SOME 40PERCENT D AND REPEATED OPERATION GAVE THAT PRODUCT CONTG. SOME 60PERCENT D, WHILE A 3RD OPERATION GAVE PRODUCT (I) WITH SOME 80PERCENT D CONTENT. THIS AND PHCH:CHCHO IN THE PRESENCE OF ST SUB3 N GAVE 55PERCENT DEUTERATED PRODUCTS B SUB0.4 107DEGREES, CONTG. 35PERCENT ALPHA,D, 39PERCENT ALPHA,ALPHA,D SUB2, IS SMALLER THAN 7PERCENT ALPHA,D, 39PERCENT SIMILAR TO 19PERCENT ALPHA,ALPHA,BETA,D SUB3 ANALOGS OF ACETONECYANOHYDRIN ESTER OF 3,PHENYLPROPIONIC ACID, AS DETD. FROM THE MASS SPECTRUM. SIMILAR REACTION WITH PHCH:CMECHO GAVE 50PERCENT MIXED PRODUCT CONTG. 87PERCENT ALPHA,D, 13PERCENT ALPHA,ALPHA AND ALPHA,BETA,D SUB2 ANALOGS OF ACETONECYANOHYDRIN ESTER OF 2,METHYL,3,PHENYLPROPIONIC ACID. REACTION OF I WITH PHENYLPROPARGYL ALDEHYDE SIMILARLY GAVE 35PERCENT MIXED DEUTERATED PRODUCTS CONTG. 46PERCENT A,CIS,D, 45PERCENT ALPHA,TRANS,D, 9PERCENT BETA,D (6PERCENT TRANS AND 3PERCENT CIS) ANALOGS OF ME CINNAMATE. I AND CROTONALDEHYDE GAVE 41PERCENT CROTONALDEHYDE CYANOHYDRIN, B SUB12 85-9DEGREES, N PRIME20 SUBD 1.4442. THE REACTION MECHANISM WAS DISCUSSED. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSXOW, USSR.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

Lasers / Masers

SHAKHIDZHANOV, S. S.

UDC: 621.382.2

"Nonlinear Theory of Light Amplification in a Laser p-n Junction"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1424-1431

Abstract: Although solution of the problem of light beam amplification with all nonlinearity mechanisms taken into account cannot be attained at present due to lack of detailed information, it can to some extent be found by starting with an idealized waveguide model of the p-n junction. The problem of steady state amplification of light in the p-n junction is solved in the unidimensional approximation, which can be used for a sufficiently long amplifier -- i.e., an instrument in which the length/width ratio in the amplification region is much greater than unity -- and a system of equations describing the amplification is derived under the assumption that there are two light beams in opposite directions. Under the further assumption that the spectra of the beams are equal and quite narrow, a situation very important in considering applied problems, the equations can be simplified.

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UDC: 621.382.2

SHAKHIDZHANOV, S. S., Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1424-1431

A three-step procedure is developed for solving the light amplification problem. Appreciation is expressed to L. N. Kurbatov for posing the problem and guiding the work, and to Ye. M. Kuznetsova, D. I. Arnol'd, and V. L. Bakumenko for their valuable comments.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

UDC: 621.382.2

KURBATOV, L. N., SHAKHIDZHANOV, S. S., BYSTROVA, L. V., KRAPUKHIN, V. V., and KOLONENKOVA, S. I.

"Investigating Superluminescence of a GaAs Diode"

Leningrad, Fizika i tekhnika poluprovodnikov, Vol 4, No 11, 1970, pp 2025-2031

Abstract: To investigate possible means of increasing the power in the point glow of the GaAs diode junction, the authors used an injection diode operating in the nonlinear mode of a traveling wave amplifier. This diode, termed a superluminescence diode by the authors, has no external radiation sources; its illumination power is the result of amplification of its spontaneous, characteristic radiation. Details of the construction of the diode together with a diagram of its cross section are given. The diodes investigated by the authors were obtained by the diffusion of zinc in an n-type substrate alloyed with tellurium. Also discussed are the measurement techniques, which were conducted at the temperature of liquid nitrogen, the mapping of the near and far fields, the radiation polarization, the radiation power as a function of the injection current, and the radiation spectra. The authors express their gratitude to Ye. Susov, M. Zargar'yants, et al.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

1/2 052 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--LARGE BENCH SCALE STUDY OF THE HEAT TRANSFER AND RADIATION FROM FLAME ENVELOPES -U-

AUTHOR-(03)-MAGIDSON, M.A., SHAKHLIN, V.I., SAVOSTIN, O.Z.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(2), 143-6

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--METALLURGIC FURNACE, STEEL PRODUCTION, NATURAL GAS, FUEL CONSUMPTION, COMBUSTION R AND D, HEAT TRANSFER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1785 STEP NO--UR/0148/70/013/002/0143/0146

CIRC ACCESSION NO--AT0115614

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

2/2 052 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AT0115614

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE MIXING OF GAS AND AIR AND OF MAZUT ADDNS. ON THE RADIATION OF THE FLAME AND ITS HEAT TRANSFER TOWARD THE HEARTH WHEN BURNING NATURAL GAS WAS STUDIED ON A LARGE BENCH IN A STEEL MILL. THE CONSTRUCTION OF THIS BENCH WAS DESCRIBED BY N. I. IVANOV, 1962. THE HEAT LOAD WAS CONST. AT 4 MILLION KCAL PER HR, THE TEMP. OF THE PREHEATED AIR WAS 650-700DEGREES, AND THE PERIOD BETWEEN THE SWITCHING OF AIR REGENERATORS WAS 25-30 MIN. WITHOUT MAZOUT ADDN. THE HIGHEST UTILIZATION OF O, AND THE HIGHEST TEMP. WAS PRODUCED WHEN ALL THE GAS WAA SUPPLIED TO THE UPPER BURNER AND THE CONSUMPTION OF THE AIR WAS 1 M PRIME3 AIR PER M PRIME3 GAS. CONSEQUENTLY, MIXING OF GAS AND AIR AND THE INCREASE OF LUMINOSITY OF THE FLAME LEAD TO THE DECREASE OF TEMP. AND LOWER HEAT TRANSFER. THE LUMINOSITY OF THE FLAME, AS WELL AS ITS RADIATION AND HEAT TRANSFER INCREASED WITH INCREASING AMTS. OF MAZOUT. THE MAZOUT SHOULD BE MIXED WITH AIR, WITH THE SIMULTANEOUS ADDN. OF GAS AND COMPRESSED AIR OR STEAM. FACILITY: NAUCH. ISSLED. INST. MET., CHELYABINSK, USSR.

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USSR

UDC 533.6.013.42

PAVELKO, V. P., SHAKHMANSKIY, G. V.

"On the Aerodynamic Deformation of Flexible Oscillations"

V sb. Rasseyaniye energii pri kolebaniyakh mekh. sistem (Energy Scattering Under Oscillations of Mechanical Systems -- Collection of Works), Kiev, "Nauk. dumka", 1972, pp 305-309 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V371)

Translation: The aerodynamic decrement of oscillations in air of a plane sample of constant cross section is determined experimentally under the absence of flow. The decrement was studied as a function of the amplitude of the stresses, the air temperature, and the distance from the sample to the screen. It is shown that the decrement in oscillations associated with aerodynamic resistance is determined in a certain range of amplitudes by the shape of the sample and the viscosity of the medium. The closeness of the screen can strongly effect the magnitude of the decrement in oscillations. 6 ref. R. A. Shipov.

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USSR UDC: 621.317.743

SHAKHMARDANOV, Sh. M., MASLENNIKOV, V. K.

"A Noise Generator"

Uch. zap. Azerb. in-t nefti i khimii (Scientific Notes of the Azerbaydzhan Institute of Petroleum and Chemistry), 1970, ser. 9, No 1, pp 29-32 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2A277)

Translation: The authors describe a noise generator developed for laboratory studies of the interference resistance of reception equipment in a hydraulic communications channel designed for transmitting depth parameters during turbodrill well boring. The generator is designed for a noise frequency of 0.8-5 Hz. The basic elements of the generator circuit are a step switch and a multivibrator with a prf of 10 Hz which controls operation of the step switch. Four illustrations, bibliography of two titles. N. S.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

1/2 028 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--STUDY OF THE TEMPERATURE CHARACTERISTICS OF RESISTANCE WIRE STRAIN GAUGES UNDER CONDITIONS OF SHARPLY CHANGING TEMPERATURES -U-

AUTHOR-(02)-LIKHACHEV, YU.I., SHAKHMATOV, D.T.

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COUNTRY OF INFO--USSR

SOURCE--PROBLEMY PROCHNOSTI, VOL. 2, MAR. 1970, P. 83-86

DATE PUBLISHED----MAR70

SUBJECT AREAS--METHODS AND EQUIPMENT, PHYSICS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--THERMAL EFFECT, STRAIN GAGE, NICKEL ALLOY, MOLYBDENUM ALLOY, WIRE/(U)N80KHLUD ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0109 STEP NO--UR/3663/70/002/000/0083/0086

CIRC ACCESSION NO--AP0123881

UNCLASSIFIED

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UNCLASSIFIED PROCESSING DATE--13NOV70

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CIRC ACCESSION NO--AP0123881

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EVALUATION OF THE EFFECT OF HEATING RATE ON THE BEHAVIOR OF CERTAIN PARAMETERS OF RESISTANCE WIRE STRAIN GAUGES. EXPERIMENTAL AND THEORETICAL RESULTS ARE GIVEN FOR THE BEHAVIOR OF RESISTANCE STRAIN GAUGES MADE OF WIRES OF NI-MO AND N80KULUD ALLOYS, UNDER UNSTEADY THERMAL CONDITIONS DURING HEATING UP TO 550 DEG C. IT IS FOUND THAT THE RESISTIVITY OF WIRES IS INDEPENDENT OF TEMPERATURE CHANGES. FOR OBTAINING BETTER ACCURACY UNDER SHARPLY CHANGING TEMPERATURES, IT IS NECESSARY TO MAKE ALLOWANCE FOR THE DEPENDENCE OF THE METROLOGICAL CHARACTERISTICS OF RESISTANCE STRAIN GAUGES ON THE TEMPERATURE CHANGE RATE.

FACILITY: MOSKOVSKII INZHENERNO-FIZICHESKII INSTITUT, OBNINSK, USSR.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

1/2 008 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--FLOTATION OF BARITE FROM A DESLIMED SLURRY AT THE SALAIR CONCENTRATING MILL -U-

AUTHOR-(04)-VINOKUROV, F.P., KALMYKOV, N.N., SHAKHMATOV, V.N., DENISENKO, Z.I.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(1), 86-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--FLOTATION, BARIUM MINERAL, SLIME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0762 STEP NO--UR/0136/70/043/001/0086/0087

CIRC ACCESSION NO--AP0102727

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2/2 . 008 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0102727

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ATTEMPT WAS MADE TO DECREASE THE AMT. OF SLURRIES IN THE FEEDING OF THE BARITE FLOTATION. WHEN DESLIMED SLURRY IS USED THE FLOTATION OF THE BARITE IMPROVES CONSIDERABLY, THE EXTN. INCREASES, THE QUALITY OF THE BARITE CONCS. ALSO IMPROVES. THE DESLIMING OPERATION WAS INVESTIGATED IN SOME DETAIL. THE TECHNIQUE USED AND DESCRIBED HEREIN HAS MANY ADVANTAGES AND IS TO BE PREFERRED OVER THE PRESENT TECHNOL.

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UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

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243864 CALORIMETRIC CONSUMPTION METER FOR LIQUID AND GASES consisting of a connecting pipe (1) of a nonconducting material (e.g. glass, bakelite etc.): identical temperature sensitive elements (2,3) with insertable sleeves (4,5): h.f. coils (6,7) and measurement generators (8,9): switches (10,11); comparator (12); time delay device (13); h.f. generator (14); h.f. heating winding (15) and meter (16).

The instrument operation is based on heat takeoff intensity from a heated object by the flowing substance. The sleeve temperature change changes the circuits impedance, which in turn changes the generators (8,9) oscillation amplitude.

21.3.67 as 1153626/18-10.KHONONZON.G.A.et alia. (30.9.69) Bul 17/14.5.69. Class 42e. Int.Cl.G01f.

AUTHORS: Khononzon, G. A., Shakhmatov, Ye. P., Yusubov, E.

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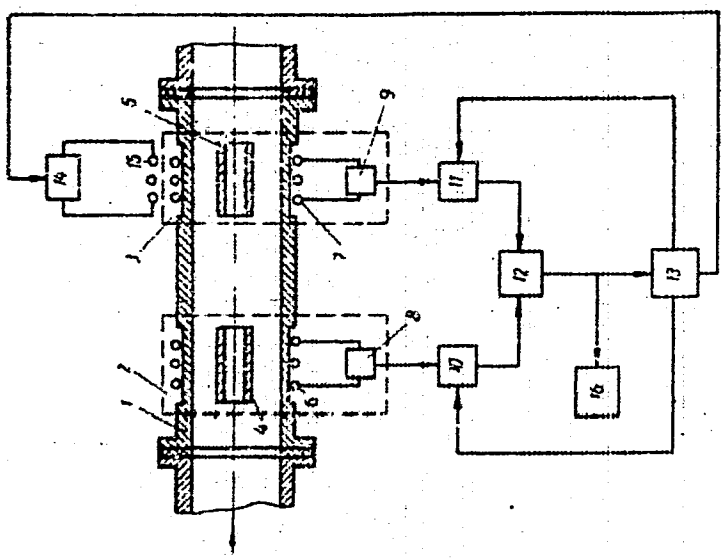

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SHAKHMATOVA, Ye. I.

SO: JPRS 53329
17 Jun 71
UDC 612.015.3+612.46/-057:629.78

POSTFLIGHT METABOLISM AND RENAL FUNCTION OF CREW MEMBERS ON THE "SOYUZ-6," and "SOYUZ-8" FLIGHTS

[Article by T. P. Galakhovskiy, A. I. Grigor'yev, Ye. G. Dyukarev, Ye. I. Shakhmatova, V. A. Yegorov, Kosmicheskaya biologiya i aviakosmicheskaya meditsina, each Engineer, Moscow, Kosmicheskaya biologiya i aviakosmicheskaya meditsina, Vol 5, No 2, 1971, pp 37-42, submitted for publication 23 April 1970]

Abstract: Different metabolic parameters of crew members of the "Soyuz-6," "Soyuz-7," and "Soyuz-8" spacecraft were studied before and after the flight. Functional changes were observed, but these constituted no health hazard. Weight losses were associated with an increased excretion of water and minerals, as indicated by the post-flight retention of water, chlorine, sodium and potassium in the body. The blood content of cholesterol, lipid phosphorus and sugar remained unchanged. No symptoms of disorders in adrenal function were noted.

Weight loss by cosmonauts during flight and impairments in the renal water-eliminating function thereafter have already been reported (Yu. V. Natochin, et al.; Ye. I. Vorob'yev, et al.; Berry and Catterson). Since the excretion of nitrogen with the urine did not increase, the weight decrease can be attributed only to dehydration, not to tissue breakdown. Such conclusions were drawn as a result of observation of a relatively limited number of cosmonauts. Accordingly, it was of interest to continue these observations by a detailed examination of the seven cosmonauts making the group flight on the "Soyuz-6," "Soyuz-7," and "Soyuz-8" ships at the same time; we traced their dynamics of excretion of electrolytes and studied their renal function.

Method

In the analysis we took 0.1 ml of blood from the finger and preserved it by drying on filter paper. We determined the content of sugar, urea, cholesterol and lipid phosphorus using an original method which makes it

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1/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--DIURETIC EFFECT OF POLYETHYLENEGLYCOLS -U-

AUTHOR-(02)-NATOCHIN, YU.V., SHAKHMATOVA, YE.I.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69, NR 4, PP 79-81

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--POLYTHEYLENE, GLYCOL, DIURETIC, RAT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0362 STEP NO--UR/0219/70/069/004/0079/0081

CIRC ACCESSION NO--AP0132591

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

2/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132591

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INTRAVENOUS INJECTION OF POLYETHYLENEGLYCOL (P.E.G. 400) TO RATS CAUSED AN INCREASE IN DIURESIS FROM 0.22 TO 1.78 ML PER HOUR AND OF NATRIURESIS FROM 8.9 TO 21.8 MU EQ PER HOUR. IN MOST OF THE EXPERIMENTS A CORRELATION WAS ESTABLISHED BETWEEN THE ADMINISTERED DOSE OF P.E.G. 400 (FROM 0.01 TO 0.8 ML) AND THE INCREASE IN DIURESIS. IN PART OF THE EXPERIMENTS P.E.G. 400 REDUCED PROXIMAL REABSORPTION. IN THIS CASE DIURESIS INCREASED UP TO 4.3 ML PER HOUR AND NATRIURESIS UP TO 347 MU EQ PER HOUR. THE EFFECT OF EQUIMOLAR DOSES OF POLYETHYLENEGLYCOL 200 AND 300 AND OF 20PERCENT MANNITE SOLUTION ON THE KIDNEY IS IN MANY RESPECTS SIMILAR TO THAT OF P.E.G. 400. AS POLYETHYLENEGLYCOLS ARE LIQUID, THEY CAN BE INJECTED WITHOUT PRELIMINARY DISSOLVING IN WATER AND USED AS OSMOTIC DIURETICS. FACILITY: SECHENOV INSTITUTE OF EVOLUTIONAL PHYSIOLOGY AND BIOCHEMISTRY, USSR ACADEMY OF SCIENCES, LENINGRAD.

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SHAKHMATOVA-PAVLOVA, I. V.

SP: JORS 53378
16 Jun 71

GENEALOGICAL STUDIES RELATED TO SCHIZOPHRENIA

UDC: 616.895.8-056.76

[Article by I. V. Shakhmatova-Pavlova, L. L. Akopova, L. K. Lobova, T. M. Siryachenko, V. L. Shenderova, Institute of Psychiatry, USSR Academy of Medical Sciences, Moscow, Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 5, May 1971, pp 46-50]

Extensive investigations of recent years have confirmed the previously known fact that there is definite accumulation of pathology in the families of schizophrenics. The studies of Rosenthal, Kety, Wender, Heston, and others, based on representative material, revealed that "disorders in the schizophrenic spectrum" (Rosenthal) are encountered more often, with statistical reliability, in the blood relatives of a proband as compared to the total population. However, practice has shown that discrete forms of psychoses and different types of borderline states, as well as marked personality anomalies may be detected, described, and classified only if the physician makes a complete examination of the family. Therefore, a meticulous clinical description of the probands and their immediate relatives should be the basis of a genealogical study which is the first stage of genetic analysis.

The present study is based on observations made in the Genetic group of the Institute of Psychiatry, USSR AMS [Academy of Medical Sciences] in 1965-1969. The genealogical method was used to study 270 families of patients with different forms (continuous, sporadic processual, and periodic) of schizophrenia.

We did not make the traditional division of probands into Kraepelin's types, since such division is based on static syndromal evaluation, in which the leading syndrome at the time the patient is examined is used as the basic. This does not take into consideration the course of the disease as a whole. Studies pursued at the Institute of Psychiatry, USSR AMS, for a number of years revealed that such a basic parameter as course is the closest to the biological essence of the process.

The classification of schizophrenia according to type of course, which has been adopted at the Institute of Psychiatry, USSR AMS, is quite consistent with the division of endogenous psychoses established in psychiatry (Table 1).

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

UDC: 621.372.061:538.56

SHAKHMAYEV, M. M.

"Analysis of the Operation of a Self-Excited Oscillator in the Frequency Modulation Mode With Controlled Capacitance of PN Junctions Connected in Series Opposition"

Tr. Kazan. aviats. in-ta (Works of the Kazan Aviation Institute), 1970, vyp. 104, pp 38-43 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A144)

Translation: The use of blocked PN junctions as the electronically controlled reactance of a frequency modulator has advantages over reactive tubes. Frequency modulator circuits with blocked PN junctions are distinguished by simplicity, reliability, economy and small overall dimensions. It is shown that frequency modulators with nonlinear capacitance of the PN junction have less parasitic amplitude modulation. Two illustrations, bibliography of five titles. L. S.

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USSR UDC 621.373.52

DANIL'CHENKO, V. P., MASLOV, D. V., SHAKHMEYSTER, L. Ye.

"A Very-Low-Frequency Square Pulse Generator"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 36, Soviet Patent No 288035, class 21, filed 26 Oct 68, published 3 Dec 70, p 54

Translation: This Author's Certificate introduces a very-low-frequency square pulse generator based on Soviet Patent No 268485. As a distinguishing feature of the patent, the range of frequencies generated is extended, and provision is made for using asymmetric electrochemical converters by making the time-mark circuit on the basis of two electrochemical converters connected in series-opposition. The patent also covers a modification of this device distinguished by the fact that provision is made for remote control of the generation period with memorization of the external action. The control device is made in some such form as a controlling selector switch connected to one or two electrochemical converters respectively.

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UDC: 621.373.52

GOLUBEVA, V. A., DANIL'CHENKO, V. P., MASLOV, D. V., SHAKHMEYSTER, L. Ye.

"A Very Low Frequency Square Pulse Generator"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 14, 1970, Author's Certificate No 268485, filed 25 Mar 68, p 37

Abstract: This author's certificate introduces a very low frequency square pulse generator which consists of a flip-flop with current-delaying circuits and an electrochemical cell connected in the load diagonal, and two threshold amplifiers. As a distinguishing feature of the patent, the operating reliability of the generator is improved and the range of controllable frequencies is extended by connecting thyristors in the collector circuits of the flip-flop transistors through transformer windings connected in opposition. One of these thyristors is shunted by an element which makes the circuit asymmetric.

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AA0044787 Sha Khmeyster, L. USSR. 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

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243008 INFRA-LOW FREQUENCY PULSE GENERATOR for shaping rectangular pulses, containing a trigger, an electro-chemical element, two current stabilisers and two threshold amplifiers (transistors). To simplify the circuitry and reduce the number of components required, the following method of connection is adopted:

The base of each of the two transistors forming the trigger is connected to the collector of the other transistor in the trigger via the collector-base junction of the amplifier transistor, the collector-emitter junction of the current stabiliser transistor and the resistor of the current stabiliser, these last three being in series. Parallel to the emitter-base junction of

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AA0044787

one threshold amplifier transistor are connected the base emitter junction of the other threshold amplifer transistor and the electro-chemical element. The bases of the current stabiliser transistors are inter-connected via a ballast resistor while their collectors are inter-connected by the electro-chemical element.

18.3.68 as 1227250/18-24.V.A.GOLUBEVA et alia. (24.9.69.) Bul 16/5.5.69. Class 21c, 46/50, 21a[1], 36/02. Int.Cl.G 05f, H 03k.

AUTHORS:

243008

Golubeva, V. A.; Danil'chenko, V. P.; Maslov, D.V.; Shakhmeyster, L. Ye.

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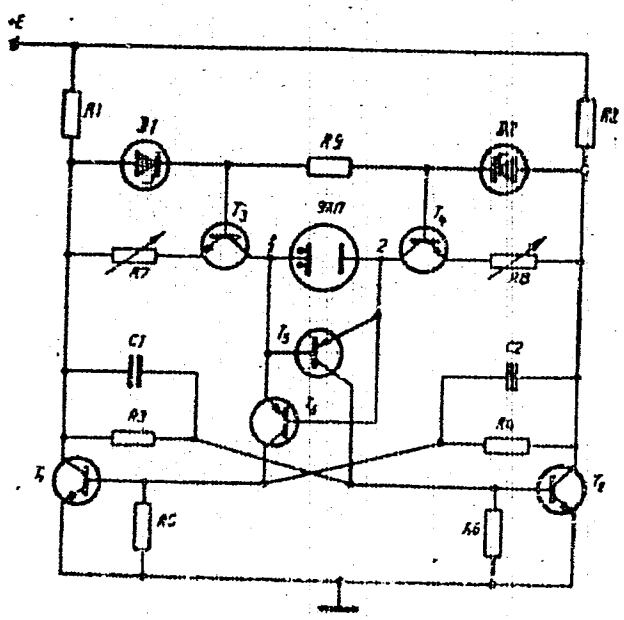

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POLYAK, I.. I., SHAKHMEYSTER, V. A.

"Program for Approximation of Functions of Several Variables by Algebraic Polynomials Using the Method of Least Squares"

Tr. Gl. Geofiz. Observ. [Works of the Main Geophysical Observatory], No 289, 1971, pp 29-32, (Translated from Referativnyy Zhurnal, Kibernetika, No 3 V540 by the author's).

Translation: The realization of the basic relationships of the linear theory of the method of least squares is studied for polynomials of several variables in the input language of the TA-1M translator.

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SHAKHNAROVICH, A.M.

Psycholinguistics

134. USSR

Psycholinguistics

SHAKHNAROVICH, A. M., Moscow

"Third All Union Symposium on Psycholinguistics"

Moscow, Voprosy Psikhologii, No 6, Nov-Dec 70, pp 180-183

Abstract: This symposium was much more concerned with practical applications than either of its predecessors. Papers were presented on the use of linguistic analysis to determine the information content of written material, to identify individual characteristics, and to detect falsehoods. Several papers were also presented on techniques of mass communication, propaganda, and public speaking. Another section was devoted to psychology and methods in the teaching of both native and foreign languages, and to the influence of psychological factors on both learning and using foreign languages.

A session on "psycholinguistic problems in engineering psychology and related subjects" covered topics ranging from the reception of information in both spoken and written forms to aspects of automated information processing.

Two other special sessions were devoted to the learning of language by young children and psycholinguistic problems in psychopathology, neuropsychology, and

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1/2 027 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--ELECTROPHYSIOLOGICAL ANALYSIS OF THE STATE OF VEGETATIVE NERVES IN EXPERIMENTAL THYROTOXICOSIS -U-

AUTHOR-(03)-GOLBER, L.M., KANDROR, V.I., SHAKHNAROVICH, V.M.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69, NR 5, PP 35-38

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--THYROID GLAND, ENDOCRINE SYSTEM DISEASE, GANGLION, BIOPOTENTIAL, NERVOUS SYSTEM, ELECTROPHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0065 STEP NO--UR/0219/70/069/005/0035/0038

CIRC ACCESSION NO--AP0120765

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

2/2 027 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0120765

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROLONGED ADMINISTRATION OF THYRODINE TO RABBITS IS ATTENDED BY INTENSIFIED EXCITATION OF VEGETATIVE NERVES AND SUPERIOR CERVICAL SYMPATHETIC GANGLION. THE AMPLITUDE OF ACTION POTENTIALS, AS WELL AS THE LIABILITY AND FUNCTIONAL RESISTANCE OF THE GANGLION DECREASE. WITH THE PROGRESS OF THE SEVERITY OF THYROTOXICOSIS IN ANIMALS ONE COULD MORE FREQUENTLY INDUCE THE PHENOMENON OF POST TETANIC POTENTIATION OF THE SYMPATHETIC GANGLION, HOWEVER THE DEGREE OF THIS POTENTIATION IS LESSER THAN IN CONTROL ANIMALS. THE AUTHORS POSTULATE THE DEPENDENCE OF THE REFERRED TO CHANGES UPON SHIFT OF THE MEMBRANE POTENTIAL OF EXCITATION FORMATIONS AT THE BASIS OF WHICH LIE INADEQUATE ENERGY SUPPLY OF PROCESSES OF CREATION OF TRANSMEMBRANOUS CATION GRADIENTS. FACILITY: INSTITUTE OF EXPERIMENTAL ENDOCRINOLOGY AND HORMONAL CHEMISTRY OF THE ACADEMY OF MEDICAL SCIENCES OF THE USSR, MOSCOW.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--MOTOR OIL -U-

AUTHOR--SHAKHNAZAROV, R.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 266,986

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--01APR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, LUBRICANT ADDITIVE, LUBRICATING OIL, ORGANOSILICON ADDITIVE, MINERAL OIL, PHOSPHORIC ACID, ZINC COMPOUND, BARIUM COMPOUND, THIOL, ORGANIC SULFUR COMPOUND, ORGANOSTRONTIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1806 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0130639

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

2/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AA0130639

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A MOTOR OIL CONTAINED SULFONATE ADDITIVE 1-6, ZN OR BA SALTS OF DITHIOPHOSPHORIC ACID 1-3.5, ORGANOSILICON ADDITIVE 0.003-0.005, AND SR ALKYLPHENATE DISULFIDE 1-4PERCENT IN MINERAL OIL.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

1/2 009 UNCLASSIFIED

TITLE--HERE COMMANDERS ARE TRAINED -U-

PROCESSING DATE--11SEP70

AUTHOR--SHAKHNAZAROV, X.X.

COUNTRY OF INFO--USSR

SOURCE--VYSHKA, JUNE 16, 1970, P 3, COLS 1-7

DATE PUBLISHED--16JUN70

SUBJECT AREAS--MILITARY SCIENCES, MATERIALS

TOPIC TAGS--PETROLEUM RESEARCH FACILITY, CIVIL DEFENSE TRAINING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1081

STEP NO--UR/9059/70/000/000/0003/0003

CIRC ACCESSION NO--AN0109208

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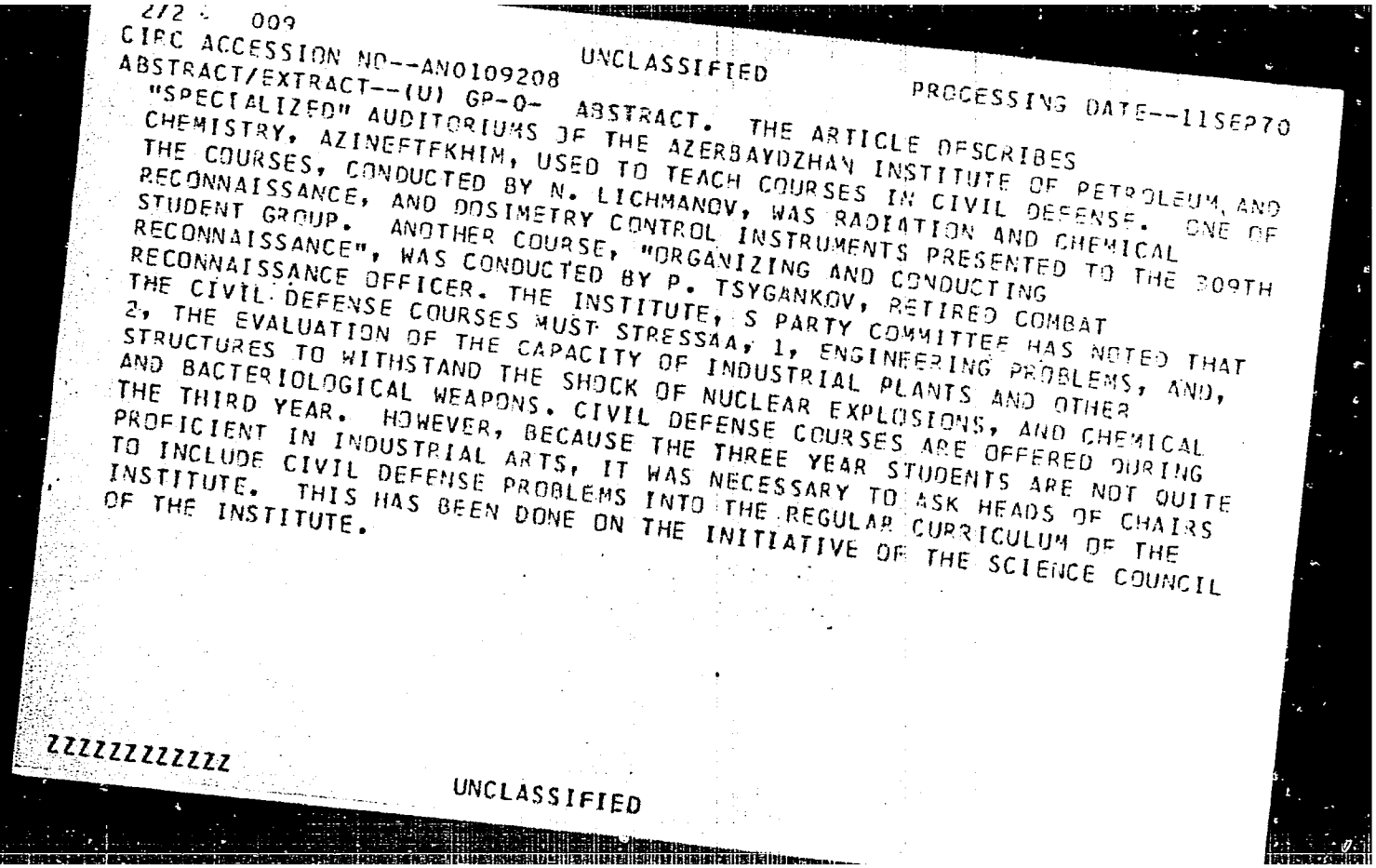

272 009

CIRC ACCESSION NO--AN0109208 UNCLASSIFIED PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DESCRIBES "SPECIALIZED" AUDITORIUMS OF THE AZERBAYDZHAN INSTITUTE OF PETROLEUM AND CHEMISTRY, AZINEFTEKHIM, USED TO TEACH COURSES IN CIVIL DEFENSE. ONE OF THE COURSES, CONDUCTED BY N. LICHMANOV, WAS RADIATION AND CHEMICAL RECONNAISSANCE, AND DOSIMETRY CONTROL INSTRUMENTS PRESENTED TO THE 309TH STUDENT GROUP. ANOTHER COURSE, "ORGANIZING AND CONDUCTING RECONNAISSANCE", WAS CONDUCTED BY P. TSYGANKOV, RETIRED COMBAT RECONNAISSANCE OFFICER. THE INSTITUTE, S PARTY COMMITTEE HAS NOTED THAT THE CIVIL DEFENSE COURSES MUST STRESSAA, 1, ENGINEERING PROBLEMS, AND, 2, THE EVALUATION OF THE CAPACITY OF INDUSTRIAL PLANTS AND OTHER STRUCTURES TO WITHSTAND THE SHOCK OF NUCLEAR EXPLOSIONS, AND CHEMICAL AND BACTERIOLOGICAL WEAPONS. CIVIL DEFENSE COURSES ARE OFFERED DURING THE THIRD YEAR. HOWEVER, BECAUSE THE THREE YEAR STUDENTS ARE NOT QUITE PROFICIENT IN INDUSTRIAL ARTS, IT WAS NECESSARY TO ASK HEADS OF CHAIRS TO INCLUDE CIVIL DEFENSE PROBLEMS INTO THE REGULAR CURRICULUM OF THE INSTITUTE. THIS HAS BEEN DONE ON THE INITIATIVE OF THE SCIENCE COUNCIL OF THE INSTITUTE.

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USSR

UDC 669.15'28.26.25.24:621.78

SHAKHNAZAROV, YU. V., ANISIMOVA, M. S., BARAKHTIN, B. K., and SHUL'MAN, V. M., Leningrad

"The Stabilization of Austenite with Inverse Conversion in Cr-Co-Mo and Cr-Ni-Co-Mo Steels"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 73, pp 160-163

Abstract: The stabilization of austenite was investigated with inverse conversion in Kh15K19M3 steel not containing Ni, and in Ni-containing Kh14K14N4M3 steel, both smelted in one-ton vacuum arc furnaces. The effect of the aging temperature on characteristic factors as the quantity of residual austenite, electric resistance, period of α-phase lattice, impact ductility, and hardness, is discussed by reference to diagrams. The lowered stability of austenite, developing on initial stages of $\alpha \rightarrow \gamma$ conversion according to the shifting mechanism, indicate a low contribution of phasal peening to the stabilization effect. The maximum stability results with the development of $\gamma \rightarrow \alpha$ conversion, which becomes possible by a significant redistribution of elements. Considering the increased solubility of Mo in martensite at decreasing Co content, it can be assumed that the stabilization of austenite in steel not containing Ni is in presence of Cr, determined by γ-phase concentration with Co. Three figures, eight bibliographic references.

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Mechanical Properties

USSR

UDC 669.14.018.2:620.17

TIKHOMIROV, V. V., SHAKHNAZAROV, YU. V., PANKOV, A. G., and POPOV, V. D.

"Mechanical Properties and the Breaking Strength of Steel Ni8K9M5T After Different Aging Methods"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 4, 1971, pp 6-8

Abstract: The effect of the temperature and the aging period on mechanical properties of Ni8K9M5T martensitic-aging steel melted down in a 0.5-ton vacuum-induction furnace was investigated. The breaking strength was rated by the specific work of impact bending of specimens with a fatigue crack and the factor K_c characterizing the intensity of stresses in plane stress condition. It was found that low-temperature aging at 425-450°C ensures high strength properties than high-temperature aging at 480-500°C. The factor K_c was found to represent a more responsive characteristic in rating the tendency of steel to brittle failure than the energy to fracture determined on an impact specimen with a preliminarily applied fatigue crack. Four illustrations, six biblio, refs.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

Thermomechanical Treatment

USSR

UDC: 539.4.011

SHAKHNAZAROV, Yu. V., TIKHOMIROV, V. V., ORLOV, Ye. D., and VOROB'YEVA, N. I., Leningrad

"Combined Effect of Alloying and High-Temperature Thermomechanical Treatment on the Resistance of Low-Tempered Martensite to Brittle Failure"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, no 6, Nov-Dec 70, pp 124-127

Abstract: This study involved arc furnace-melted steels 40, 40KhA, 40KhS, 40KhSN, and 40KhSNMF. The steels were quenched from 870°C (heating in a salt bath for 6 minutes, oil). The high-temperature thermomechanical treatment (HTTMT) was effected by rolling in shaped rolls at 900°C with deformation of about 50%. The tempering temperature was such as to insure a tensile strength of 190-215 kg/mm^2. HTTMT is shown to increase the resistance of low-tempered steels (varying in degree of alloying) to brittle failure; it was also found to level off the differences in notch and crack sensitivity. HTTMT increases the crack-propagation resistance

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USSR

SHAKHNAZAROV, Yu. V., et al, Izvestiya Akademii Nauk SSSR, Metally, no 6, Nov-Dec 70, pp 124-127

of low-tempered martensite through changes in the macrostructure of the fracture. The tangible differences in the values of the pair coefficients of correlation between the notch sensitivity characteristics demonstrate that the latter are not interchangeable in evaluating the resistance of low-tempered martensite to brittle failure.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

UDC 669.26:620.193.91

SHAKHNAZAROV, Yu. V., ANISIMOVA, M. S., and TSUKROV, Ye. A., "Bol'shevik" Factory

"Investigation of the Aging of Cr-Ni-Co-Mo Steels"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 35, No 1, 1973, pp 201-204

Abstract: In martensitic-aging steels a rise of the aging temperature and a lowered content of Ni and Co in the precipitate after high-temperature aging is usually combined with a diminution of the parameter of the lattice of α-solid solution. In 00Kh15K19M3 steel, however, the increase in hardness approximately up to maximum hardening (510 °C) is shown not to be related to a diminution of the parameter of α-phase lattice, which even increases in the low-temperature stage (up to 390 °C). The increase of the parameter is complying with the increment of the length of dilatometric specimens of 00Kh15K19M3 (1),

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USSR

SHAKHNAZAROV, Yu. V., ANISIMOVA, M. S., Fizika Metallov i Metallovedeniye, Vol 35, No 1, 1973, pp 201-204

00Kh13K14N4M3 (2), and 00Kh12K14N5M5 (3) steels after heating up to 300-520 °C. Ni intensifies the hardening effect on (1) and (2) steels after aging at 390 and 420 °C. The increase of aging temperature up to 420 °C causes embrittlement at -196 °C of steel (1). The decrease of brittleness in Cr-Ni-Co-Mo steels after hardening is caused by dissolution of Co- and Mo-rich phases. Ni and Co are assumed not only to activate other hardening elements, but also to participate in separation processes in hardening Cr-Ni-Co-Mo steels. Five figures, nineteen bibliographic references.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

UDC 576.851.48.095.5:547.835

SHAKHNAZAROVA, Ye. A., Chair of Microbiology, Crimean Medical Institute

"Characteristics of Partial lac+ Diploids Isolated by Crossing E. coli 200 PS With Pathogenic Enterobacteria"

Kiev, Vrachebnoye Delo, No 7, 1971, pp 147-149

Abstract: The conjugation of E. coli 200 PS with one standard and 14 wild Salmonella strains and three Sh. flexneri strains yielded cultures that fermented lactose. Partial lac+ diploids isolated by crossing E. coli 200 PS with Sh. flexneri were also able to ferment maltose and dulcite. With respect to serological properties, the partial diploids, like the recipient strains, were agglutinated by the corresponding monoreceptor serums. Some exhibited a decrease in agglutination titer with sera homologous to the recipient cultures. The virulence of the partial lac+ diploids was virtually indistinguishable from that of the original cultures.

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USSR

UDC: 518.5:681.3.06

ROMANENKO, A., RUMYANTSEV, V., SHAKHNAZARYAN, Ye.

"Some Problems of Modeling and Optimizing the Activity of the United Scientific and Technical Publishers"

V sb. Vopr. modelir. i optimiz. sistem inform. obsluzh. (Problems of Modeling and Optimizing Information Servicing Systems--collection of works), vyp. 2, Moscow, 1970, pp 148-170 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V778)

Translation: A procedure for organizing the activity of an information agency is proposed which is based on utilizing the methods and means of formation, transmission, accumulation, ordering, and processing of flows of statistical and accounting information on the functioning of the United Scientific and Technical Publishers. This method proposes a study of the stream of information traffic in the United Scientific and Technical Publishers, and also construction of an informational and mathematical model of the organization. As a criterion of optimization, the authors use the cost of losses due the lack of accord of the infor-

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ROMANENKO, A., Vopr. modelir. i optimiz. sistem inform. obsluzh., vyp. 2, Moscow, 1970, pp 148-170

mation to the requirements of users of the United Scientific and Technical Publishers. The optimization problem is solved within the framework of filtration theory. An approximate search algorithm is proposed for optimizing the selected criterion. Illustrative examples are given. V. Mikheyev.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

UDC 621.357.1.035.2:669.781(088.8)

GUTMAN, M. B., KAUFMAN, V. G., GURSKIY, V. F., GORODINSKIY, M. S., SHAKHNES, YU. A., KALOSHIN, YU. G., RABIN'KIY, B. YA., and NEZHUMEVA, L. S.

"Apparatus for Electrolytic Boronization"

USSR Author's Certificate kl. [expansion unknown] C 23 c 9/00 No 337446, Filed 23 Jan 70, Published 31 May 72 (from Referativnyy Zhurnal -- Khimiya, No 7, 1973, Abstract No 7L431P)

Translation: An apparatus is patented for the electrolytic boronization, composed of a nonmetallic crucible inside of which is located a partition and electrodes. It is distinctive in that in order to increase efficiency the electrodes are arranged in a circular space formed by the cylindrically coaxial arrangement of the crucible and partition filled with the molten salt.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

1/2 020 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--THERMAL AND X RAY PHASE ANALYSIS OF LANTHANUM MOLYBDATE POTASSIUM AND MOLYBDATE SYSTEMS -U-

AUTHOR-(04)-SAVELYEVA, M.V., SHAKHNO, I.V., PLYUSHCHEV, V.YE., ANTONOVA, S.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 835-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, THERMAL ANALYSIS, X RAY ANALYSIS, METAL COMPLEX COMPOUND, LANTHANUM COMPOUND, MOLYBDATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1716

STEP NO--UR/0078/70/015/003/0835/0839

CIRC ACCESSION NO--AP0115545

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

2/2 020 UNCLASSIFIED

CIRC ACCESSION NO--AP0115545 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERMAL AND X RAY DIFFRACTION STUDY OF K SUB2 MOO SUB4-LN SUB2(MOO SUB4)SUB3 (LN EQUALS GD, DY, HO, ER, OR Y) SYSTEMS SHOWED THAT THE SYSTEMS FORM ANALOGOUS PHASE DIAGRAMS AND 2 TYPES OF COMPLEXES: THE INCONGRUENTLY MELTING KLN(MOO SUB4)SUB2 (WHICH ARE ISOSTRUCTURAL WITH KY(MOO SUB4)SUB2) AND K SUB8 LN SUB2(MOO SUB4)SUB7 COMPDS. THE TEMPS. OF THE PHASE TRANSITIONS IN THE K SUB2 MOO SUB4 LN SUB2(MOO SUB4)SUB3 SYSTEMS ARE TABULATED AND THE PHASE DIAGRAM OF THE K SUB2 MOO SUB4-ER SUB2(MOO SUB4)SUB3 SYSTEM IS PRESENTED.

FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL., MOSCOW, USSR.

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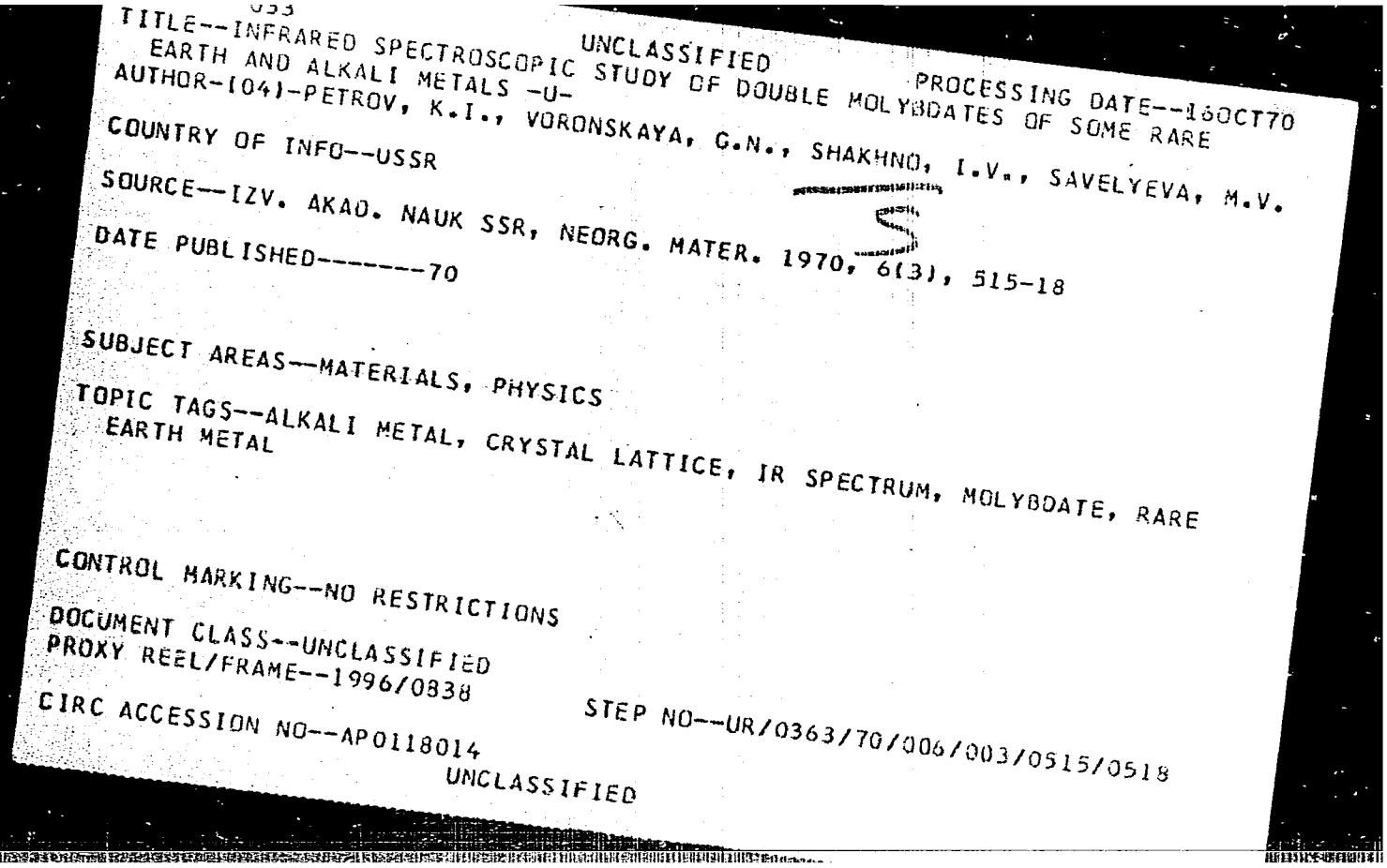

UNCLASSIFIED

TITLE--INFRARED SPECTROSCOPIC STUDY OF DOUBLE MOLYBDATES OF SOME RARE EARTH AND ALKALI METALS -U-

PROCESSING DATE--18OCT70

AUTHOR-(04)-PETROV, K.I., VORONSKAYA, G.N., SHAKHNO, I.V., SAVELYEVA, M.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSR, NEORG. MATER. 1970, 6(3), 515-18

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--ALKALI METAL, CRYSTAL LATTICE, IR SPECTRUM, MOLYBDATE, RARE EARTH METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0838

STEP NO--UR/0363/70/006/003/0515/0518

CIRC ACCESSION NO--AP0118014

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2/2 033 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118014

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IR SPECTRA (400-100 CM PRIME NEGATIVE1) OF DOUBLE MOLYBDATES OF THE MM PRIME (MOO SUB4) SUB2 TYPE (WHERE M EQUALS LI, NA, K; M PRIME EQUALS Y, GD, DY, HO, AND ER) SHOWED SIGNIFICANT DIFFERENCES WITH STRUCTURE TYPE. THE INTERPRETATION OF THESE SPECTRA WAS PERFORMED ON THE BASIS OF THE LOCAL SYMMETRY OF THE MOO SUB4 PRIME2 NEGATIVE IONS IN THE CRYSTAL LATTICE. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMONOSORA, MOSCOW, USSR.

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Acc. Nr. AP0034078 Abstracting Service: CHEMICAL ABST. 4-70 Ref. Code UR 0078

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71397b Yttrium sulfate-ammonium sulfate-water and dysprosium sulfate-ammonium sulfate-water system at 25°. Belousova, A. N.; Shablina, I. V.; Plyushchev, V. E. (Mosk. Inst. Tonkoi Khim. Tekhnol. im. Lomonosova, Moscow, USSR). Zh. Neorg. Khim. 1970, 15(1), 226–30 (Russ). The soly. of $M_2(SO_4)_3$–$(NH_4)_2SO_4$–H_2O systems, where M = Y or Dy was studied at 25° and their dingrams are constructed. The systems form incongruently sol. $M_2(SO_4)_3.(NH_4)_2SO_4.8H_2O$ (I). X-ray diffraction pattern study proved that I (M = Y or Dy) are individual compds. Also, for I (M = Y) n_a is 1.538 ± 0.003 and n_a is 1.526 ± 0.003; and for I (M = Dy) n_a is 1.550 ± 0.003 and n_a is 1.527 ± 0.003. D., detd. pycnometrically, of I (M = Y) and I (M = Dy) are 2.42 ± 0.05 and 2.59 ± 0.05, resp.

HM IR

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USSR

POSPELOV, G. S., SHAKHNOV, I. F.

"Some Problems of the Formation of Long-Term Development Programs"

Probl. Prikl. mat. i Mekh. [Problems of Applied Mathematics and Mechanics -- Collection of Works], Moscow, Nauka Press, 1971, pp 44-54, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V462 from the Resume).

Translation: This work is dedicated to methodological problems of the planning of large-scale interbranch and interregional operations. Such problems as the goal and task of operations, types of operations, plans for conduct of operations, programs (combined plans of multiyear experdient activity) and systems of programs are studied, as well as a number of basic aspects of the activity of organizational systems, performing planning and control of operations. A model is described of formation of a system of interrelated programs for combined development of various branches of the national economy. The model suggested is based on division of branches into two types in the first approximation: type 1 branches, which realize programs (type 1 programs) in the area of the national well being and defense, and type 2 branches, the purpose of the

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POSPELOV, G. S., SHAKHNOV, I. F., Probl. Prikl. mat. i Mekh., Moscow, Nauka Press, 1971, pp 44-54.

activity of which is to perform type 2 programs, providing the necessary resources for the fulfillment of type 1 programs. One possible method of preparing decisions is the formation of type 1 programs is described, based on a special probabilistic model allowing possible changes in the conditions under which operations are performed (realization of type 1 programs) to be considered.

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SHAKHNOV, V. A., NESTEROV, P. V. UDC: 681.32.001

"Technological Methods of Making Memory Matrices on Cylindrical Magnetic Films"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronic Technology. Scientific and Technical Collection. Microelectronics), 1971, vyp. 4(30), pp 194-200 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 10B140)

Translation: In accordance with the requirement for ensuring the necessary accuracy in making memory matrices on cylindrical magnetic films, a comparison is made of some technological methods of implementing systems of control elements. A description is given of the technological processes, material requirements are defined, and recommendations are made on some of these materials. A method is outlined for shaping control elements of a new type combining the advantages of a solenoid and a strip line. A matrixless method is proposed for constructing an accumulator with a high packing density of memory elements. Three illustrations, bibliography of three titles. Resumé.

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USSR

UDC 621.377.622.322.5.037.733.2

SHAKHNOV, V. A., and NESTEROV, P. V.

"The Effect of Information Transcription on the Efficiency of Magnetic, Thin-Film Memory Elements"

Sb. Nauch. Tr. po Probl. Mikroelektron. Mosk. In-t Elektron. Tekhn. (Collection of Scientific Works on Problems of Microelectronics. Moscow Institute of Electrical Engineering), No 5, 1970, pp 124-132 (from Referativnyy Zhurnal — Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B112)

Translation: The article cites the results of experimental research on the efficient area of memory elements made from cylindrical magnetic thin-films using various models of information transcription. It is shown that the use of dual heteropolar pulses for transcription makes it possible to increase the efficient area and the density of information transcription on cylindrical magnetic thin films.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

UDC 621.377.622.322.5.001.572

PRESNUKHIN, L. N., NESTEROV, P. V., and SHAKHNOV, V. A.

"Research on Dynamic Switching of Magnetic Thin-Film Elements With the Help of a Digital Model"

Sb. Nauch. Tr. po Probl. Mikroelektron. Mosk. In-t. Elektron. Tekhn. (Collection of Scientific Works on Problems of Microelectronics, Moscow Institute of Electrical Engineering), No 5, 1970, pp 133-141 (from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B113)

Translation: A digital model of a magnetic thin-film element of a memory device is selected and justified. Results of theoretical research on the effect of the front of intensification of the switching field, the initial angular displacement of the magnetization vector, and the magnitude and dispersion of the anistropy field on the switching of magnetic thin films are cited.

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USSR UDC: 666.763.2:543.062

SHAKHNOVICH, I. G., and PRIMACHENKO, V. V., Veliko-Anadol'skiy Fireclay Plant

"Accelerated Method of Assessing the Quality of Kaolin"

Moscow, Ogneupory, No. 9, 70, pp 56-57

Abstract: The Vladimirov-type kaolin basically comprises two minerals: kaolinite and quartz. The contents of other components in kaolin are insignificant and constant. The Veliko-Anadol'skiy Fireclay Plant has introduced a new method of quantitative determination of Al_2O_3 and $Al_2O_3+TiO_2$ on the basis of their losses with calcination. The method involves the use of a nomogram and the ratio of Al_2O_3 or $Al_2O_3+TiO_2$ to their losses in calcination which is used as a correlating factor and is specific of a given sample of kaolin. The procedure has been in use at the plant for the last five years. The differences from the results of

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USSR

SHAKHNOVICH, I. G., and PRIMACHENKO, V. V., Ogneupory, No 9, 70, pp 56-57

chemical analyses were within ±0.5%. The principal merit of this method is speed, which is essential in mass production. The technician will more than double the number of determinations as compared to chemical analyses.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

1/2 030 UNCLASSIFIED

TITLE--FIREPROOF ALUMINA -U-

PROCESSING DATE--20NOV70

AUTHOR-(04)-KISELEV, I.M., ZROZHEVSKIY, V.T., SHAKHNOVICH, I.G., SAZHIN, V.S.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 264,211

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--10FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CHEMICAL PATENT, ALUMINA, CHEMICAL COMPOSITION, KAOLIN, FIRE RESISTANT MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1830

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132095

UNCLASSIFIED

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2/2 030 UNCLASSIFIED

CIRC ACCESSION NO--AA0132095 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO OBTAIN AN ALUMINA FIREPROOF MATERIAL EFFECTIVE TO 1950DEGREES, KAOLIN IS ROASTED AT 1050-1200DEGREES FOR 1-3 HR. THE RESULTING PRODUCT IS TREATED WITH AN ALK. SOLN. OF 100-40 G NA SUB2 O-L. AT 95-105DEGREES FOR LARGER THAN 30 MIN, AND WASHED UNTIL THE RESIDUAL CONTENT OF ALKALI IS SMALLER THAN 1PERCENT.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--SOLUTION FOR POLISHING OPTICAL WINDOWS -U-

AUTHOR-(04)-BURAVLEVA, M.G., SOYFER, L.M., TITOVA, YE.I., SHAKHNOVICH, M.I.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 261,083

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--06JAN70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--OPTIC GLASS, OPTIC WINDOW, GLASS PROCESSING, PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1747 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0136987

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5"

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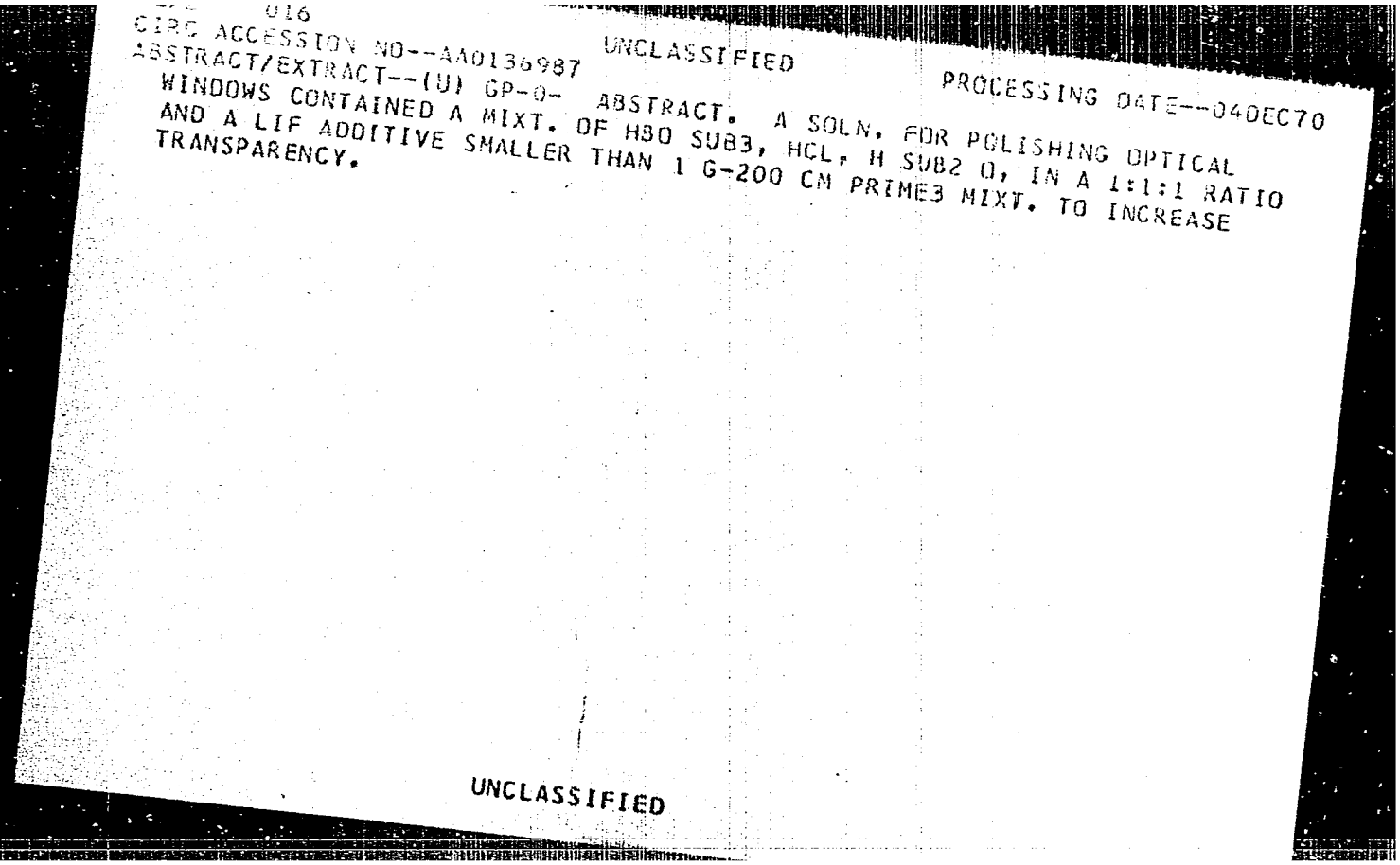

016 UNCLASSIFIED
CIRC ACCESSION NO--AA0136987 PROCESSING DATE--04DEC70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SOLN. FOR POLISHING OPTICAL WINDOWS CONTAINED A MIXT. OF H3O SUB3, HCL, H SUB2 O, IN A 1:1:1 RATIO AND A LIF ADDITIVE SMALLER THAN 1 G-200 CM PRIME3 MIXT. TO INCREASE TRANSPARENCY.

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USSR

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UDC 621.357.1:661.418(088.8)

KONONCHUK, T. I., KISELEV, G. P., RED'KO, L. P., BONDARENKO, N. V. SHAKHNOVSKAYA, M. Z.

"electrolytic Method of Preparing Chlorine and Alkali Using a Mercury Cathode"

Translation: A patent has been issued for an electrolytic method of preparing Cl_2 and alkali using an Hg-cathode and introducing into the electrolyte additives which promote a reduction in the liberation of H_2 in the bath. To expand the variety of additives, polyacrylamide is used as an additive in amounts of 0.01-10 mg/liter. Data characterizing the action of polyacrylamides of various specimens on the extent of reduction of hydrogen liberation are cited.
V. N. Kudryavtsev

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

UDC 551.242.5(470,46+574,1)

MIRCHINK, M. F., SHAKHNOVSKIY, I. M. and SHEBALDIN, V. P., Institute of Geography and Russian Hydrological Institute, Saratogan Petroleum Geophysics Board

"Origin of the Step on the Flank of the Precaspian Depression"

Moscow, Geologiya Nefti i Gaza, No 1, Jan 73, pp 9-14

Abstract: The step on the flank of the Pre-caspian depression is held to have been formed by a peculiarity of the deep-sea sediment accumulation of the downwarp. The fact that the rate of sediment accumulation lagged significantly behind the rate of subsidence is said to have caused the formation of the step. It is maintained that the accumulation of sediment was cyclical on the north-west flank of the depression, with periods of subsidence and accumulation alternating. High precision gravity measurements, seismic prospecting, the reflected wave method and new data from drilling do not agree with the linear dislocation model of step formation. The cyclical sedimentation model indicates that the inner portion of the depression, near the side is not likely to contain gas of petroleum. However the terrigenous deposits of the middle carboniferous stratum whose width increases sharply near the flank step, are considered more promising in this regard.
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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

UDC: 621.317.44

USSR

AFANAS'YEV, Yu. V., GRINBAUM, M. B., PERSIYANOV, T. V., PISHCHER, T. V., REKALOVA, G. I., SHAKHOV, A. A., Leningrad Electrical Engineering Institute imeni V. I. Ul'yanov (Lenin)

"A Device for Measuring Magnetic Fields"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 13, May 72, Author's Certificate No 335629, Division G, filed 10 Nov 70, published 11 Apr 72, p 190

Translation: This Author's Certificate introduces a device for measuring magnetic fields. The device contains an acoustic concentrator coupled to an electromechanical transducer such as a piezoelectric converter, needle holders mounted on an acoustic neutral, and a microwire which acts as part of the measurement loop and is fastened in supports and put into oscillatory motion by the transducer. As a distinguishing feature of the patent, provision is made for measuring the induction of the magnetic field inside the cavities of magnetized articles. For this purpose the device is equipped with a second electromechanical transducer of longitudinal oscillations connected in phase with the first. The transducers are securely fastened on

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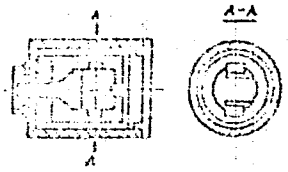
S'YEV, Yu. V. et al., USSR Author's Certificate No 335629

posite sides of the lateral surface of the concentrator, which is made in ne shape of a truncated cone and is excited on the resonance frequency of torsional vibrations of the transducers.



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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

USSR

UDC: 621.317.44

APANAS'YEV, Yu. V., GRINBAUM, M. B., PERSIYANOV, T. V., FISHCHER, I. V., REKALOVA, G. I., SHAMOV, A. A., Leningrad Electrical Engineering Institute imeni V. I. Ul'yanov (Lenin)

"A Device for Measuring Magnetic Fields"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 13, May 73, Author's Certificate No 335628, Division G, filed 10 Nov 70, published 11 Apr 72, pp 189-190

Translation: This Author's Certificate introduces a device for measuring magnetic fields. The device contains an acoustic concentrator coupled to a hollow conducting half-wave cup holding an electromechanical converter such as a piezoelectric converter, needle holders mounted on an acoustic neutral, and a microwire which acts as part of the measurement loop. The microwire is fastened in opposite end to put into oscillatory motion by the concentrator mentioned above. As a distinguishing feature of the patent, in order to measure the normal component of the field on the surface of magnetic dipoles, the device is equipped with a second electromechanical converter connected in antiphase with the first. The converters

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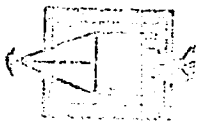
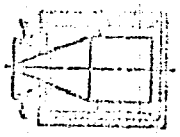
"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

IAS'YEV, Yu. V. et al., USSR Author's Certificate No 335628

e securely fastened to the concentrator base which is made in the form f a wedge. The converters are arranged symmetrically with the geometric axis of the wedge, which is excited on the resonance frequency of flexural vibrations of the converters.





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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

Veterinary Medicine

USSR

UDC 636.4:636.089

KOTOV, V. T., ShAKhOV, A. G., and LESNYKh, V. I., Voronezh Agricultural Institute imeni K. D. Glinka and All-Union Institute of Noninfectious Diseases of Farm Animals

"Colostral Immunity and Its Role in Combined Prophylactic Vaccination of Swine Against Erysipelas, Aujeszky's Disease, and Leptospirosis"

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akad.Sel'skokhoz. Nauk imeni V. I. Lenin, No 7, 1973, pp 23-25

Abstract: Pregnant sows were vaccinated 1 to 1 1/2 months before farrowing against Aujeszky's disease, erysipelas, and leptospirosis; suckling pigs were vaccinated against Aujeszky's disease and leptospirosis; weanling pigs were vaccinated at age 2 1/2 months against erysupelas and Aujeszky's disease; gilts age 4 and 7 months were vaccinated against erysipelas. More than a million animals received the polyvalent vaccines from 1968 to 1971 and the resulting immunity was as strong as that produced by monovalent vaccines. They had no adverse effects on the course of pregnancy and stimulated the formation of antibodies against all the antigens. The antibody titers in the colostrum of the pregnant sows was as high as or higher than in serum. Antibodies against all the antigens were also found in 20-to 30-day-old suckling pigs.

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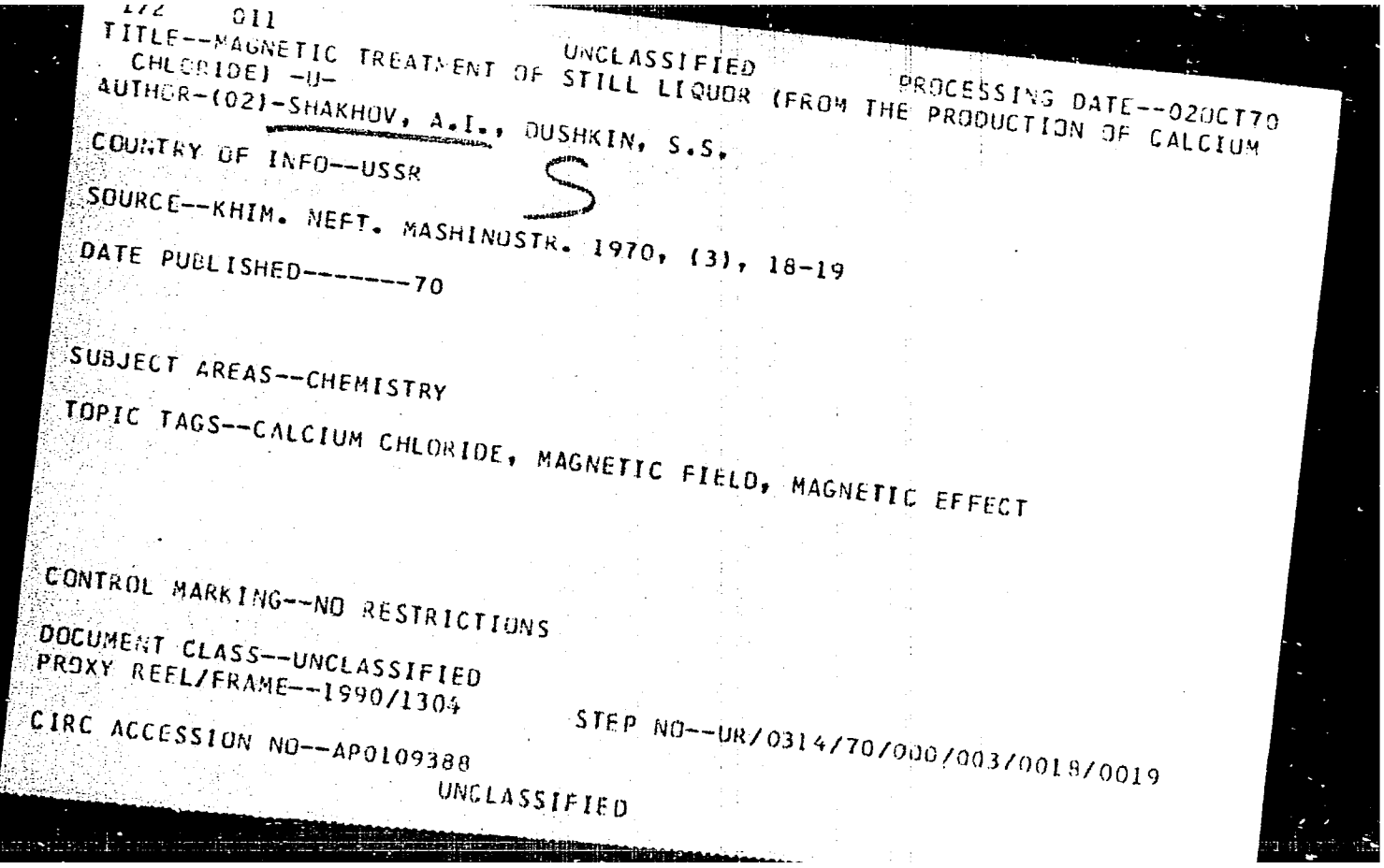

172 011
UNCLASSIFIED
TITLE--MAGNETIC TREATMENT OF STILL LIQUOR (FROM THE PRODUCTION OF CALCIUM CHLORIDE) -U-
PROCESSING DATE--02OCT70
AUTHOR-(02)-SHAKHOV, A.I., DUSHKIN, S.S.
COUNTRY OF INFO--USSR
SOURCE--KHIM. NEFT. MASHINOSTR. 1970, (3), 18-19
DATE PUBLISHED-------70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CALCIUM CHLORIDE, MAGNETIC FIELD, MAGNETIC EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/1304
STEP NO--UR/0314/70/000/003/0018/0019
CIRC ACCESSION NO--AP0109388
UNCLASSIFIED

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UNCLASSIFIED PROCESSING DATE--02OCT70

2/2 011
CIRC ACCESSION NO--AP0109388
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IMPOSED MAGNETIC FIELD OF (1-9) TIMES 10 PRIME4 A-M WERE STUDIED AS A MEANS OF REDUCING FOULING DEPOSIT FORMATIONS IN EVAPORATOR TUBES. DEPOSIT FORMATIONS WERE OBSD. IN AN ELEC. HEATED QUARTZ TUBE ON SOLNS. CONTG. CL NEGATIVE 120.7, CA PRIME2 POSITIVE 17.2, OH NEGATIVE 0.68, AND SO SUB4 PRIME2 NEGATIVE 0.55 G-L. AT LIQ. FLOW OF 0.1-1.0 M-SEC. MAGNETIC FIELDS OF (1.0-5.0) TIMES 10 PRIME4 A-M WERE EFFECTIVE IN REDUCING DEPOSIT FORMATIONS, DURING THE EVAPN. OF KCL SOLNS.; AT THE HIGHER FLOWS THIS EFFECT WAS REDUCED.

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"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

1/2 011 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--MAGNETIC TREATMENT OF STILL LIQUOR (FROM THE PRODUCTION OF CALCIUM CHLORIDE) -U-

AUTHOR-(02)-SHAKHUV, A.I., DUSHKIN, S.S.

COUNTRY OF INFO--USSR

SOURCE--KHIM. NEFT. MASHINOSTR. 1970, (3), 18-19

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CALCIUM CHLORIDE, MAGNETIC FIELD, MAGNETIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1304 STEP NO--UR/0314/70/000/003/0018/0019

CIRC ACCESSION NO--AP0109388

UNCLASSIFIED

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2/2 011 PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0109388

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IMPOSED MAGNETIC FIELD OF (1-9) TIMES 10 PRIME4 A-M WERE STUDIED AS A MEANS OF REDUCING FOULING DEPOSIT FORMATIONS IN EVAPORATOR TUBES. DEPOSIT FORMATIONS WERE OBSD. IN AN ELEC. HEATED QUARTZ TUBE ON SOLNS. CONTG. CL NEGATIVE 120.7, CA PRIME2 POSITIVE 17.2, OH NEGATIVE 0.68, AND SO SUB4 PRIME2 NEGATIVE 0.55 G-L. AT LIQ. FLOW OF 0.1-1.0 M-SEC. MAGNETIC FIELDS OF (1.0-5.0) TIMES 10 PRIME4 A-M WERE EFFECTIVE IN REDUCING DEPOSIT FORMATIONS, DURING THE EVAPN. OF KCL SOLNS.; AT THE HIGHER FLOWS THIS EFFECT WAS REDUCED.

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Water Treatment

UDC: 621.318.3:621.564.322

USSR

SHAKHOV, A. I., Candidate of Technical Sciences, and DUSHKIN, S. S.

"Magnetic Processing of Still Liquor"

Moscow, Khimicheskoye i Neftyanoye Mashinostroyeniye, No 3, 1970, pp 18-19

Abstract: Deposits formed in pipes of evaporation equipment used in calcium chloride production present a definite operational problem.

The Khar'kov Institute of Communal Construction Engineers ran tests on the effect of magnetic processing on deposition rate. Still liquor of composition 120.7 g/l Cl^-, 17.2 g/l Ca^{++}, 0.68 g/l CH^- and 0.55 g/l SO_4^{--} was passed through magnetic fields of various intensities.

Significant reduction of depositon rate was observed, with optimum results for field intensity of about $5 \cdot 10^4$ a/m and flow rate of 0.5-0.8 m/sec.

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LUNOKHOD

Chapter 4

CONTROL AND RESULTS OF PROGRAM IMPLEMENTATION

A. A. Aleksandrov, P. A. Artem'yev, G. I. Bogatov, A. Z. Yelenov, O. G. Ivanov, V. A. Ryvkina, Ye. G. Uzkiy, A. L. Shakhov, F. P. Pavlov, Yu. P. Kotov and L. N. Polenov

1. System for Lunokhod Remote Control

The lunokhod remote control system (RCS) was designed to ensure safe movement along the lunar surface in the stipulated direction with the maximum mean velocity. With respect to volume of processed information and number of instruments employed, to use the terminology adopted at the present time, this system can be classified as a saturated system. A peculiarity of the described system is that it is a closed automatic control system.

Ground and on-board radio complex equipment is used in the remote control of movement. This complex ensures the transmission and reception of control radio commands, telemetric information, and television images. The lunokhod is remotely controlled by a group of operators, the lunokhod crew.

The driver, receiving from the vehicle a monoscopic television image of the terrain in front of the lunokhod, determines the possibilities for moving over it and gives appropriate commands ("Turn," "Proceed," "Stop," "Back up"). The position and dimensions of the obstacle are evaluated using a special range scale plotted on the videocontrol apparatus (VCA) screen.

The navigator, using telemetric data received from the vehicle's course gyroscope, gyrovertical and sensors registering the traversed path, calculates the trajectory and lays out the route to be followed in the stipulated direction.

Accordingly, the driver determines the system quality during lunokhod movement about its center of gravity and the navigator determines movement along the trajectory. The effect of movement along the trajectory on movement about the center of gravity is related to the requirements on the accuracy in adhering to the trajectory.

SHAKHOV, A. I

Translation of Russian-language monograph
Peredvizhnoye Laboratoriya na Lune
Lunokhod-1, 1971, signed to press 4 June 71
resp. editor Academician A. P. Vinogradov;
Nauka Publishing House, Moscow 128 pp.

JPRS 54,525 22 November 1971

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5"

"APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002202830009-5

1/2 025 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--TREATMENT OF DEFECTS IN G13L STEEL CASTINGS UNDER WELDING -U-

AUTHOR-(03)-ANDREYEV, N.I., SHAKHOV, A.YE., GUREVICH, L.I.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SVAROCHNOYE PROIZVODSTVO, NO. 6, 1970, PP 42-43

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--STEEL, THERMAL EFFECT, PHYSICAL CHEMISTRY PROPERTY, OXIDATION, WELD DEFECT, STEEL WELDING, METAL CASTING, METAL CUTTING/G13L STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE EDGES OF CUTS IN FIRED GIBL STEEL APPEAR SLITS OF UP TO 5 MM IN DEPTH, CAUSED BY HIGH TENSIONS ON THE CUT EDGES IN COOLING AND BY PROCESSES OCCURRING IN THE STEEL DURING THE CUTTING. TO REDUCE THESE SLITS THE INTENSITIES OF THE PROCESSES IN THE STEEL MUST BE LOWERED. THIS ENTAILS MAKING THE CUTS IN A PROTECTIVE ATMOSPHERE WITH MINIMUM HEAT INTAKE. TO CHOOSE THE BEST METHOD FOR EXECUTING THIS SCHEME, THE AUTHORS INVESTIGATED VARIOUS TYPES OF METAL CUTTING. THE RESULTS OF THEIR RESEARCH ARE PRESENTED. THEY FOUND THAT THE FORMATION OF SLITS CAN BEST BE REDUCED BY USING AIR ARC OR PLASMA CUTTING OF THE STEEL WITH MINIMUM HEAT APPLICATION AND ACCELERATED COOLING. THEY ALSO DISCOVERED THAT THE CAUSES OF THE SLIT FORMATION ARE THE THERMOPHYSICAL CHARACTERISTICS OF THE STEEL, A HIGH PHOSPHORUS CONTENT, BURNING OUT OF CARBON AND MANGANESE, THE PRECIPITATION OF CARBIDES, THE GROWTH OF THE GRAINS AND THE OXIDATION OF THEIR EDGES.

FACILITY: IRKUTSK POLYTECHNICAL INST. FACILITY: IRKUTSK HEAVY MACHINERY CONSTRUCTION PLANT.

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UDC: 621.317.32

USSR

SHAKHOV, E. K., TELEGIN, S. M., and SHLYANDIN, V. M.

"Digital Measurement of A-C Effective Voltage"

Leningrad, Priborostroyeniye, No 5, 1972, pp 17-21

Abstract: A method for the highly accurate measure of the effective values of a-c voltages in the low and infrared frequency ranges is described. The method uses intermediate signal transformation to a frequency permitting a digital count of the effective value of a voltage of arbitrary shape independent of the latter's frequency. The block diagram of one instrument for employing this method is given together with a verbal and mathematical explanation of its performance, and reasons for the superiority of this method over conventional ones are presented. An account of the practical check of the method is also given. The authors are associated with the Penza Polytechnical Institute.

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USSR

UDC 621.325.5

RYZHEVSKAYA, T. N., RYZHEVSKIY, A. G., SHAKHOV, E. K., SHLYANDIN, V. M., Penza Polytechnical Institute

"A Percentage Time-Pulse Converter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 5, Feb 72, Author's Certificate No 327601, Division H, filed 27 Nov 69, published 26 Jan 72, p 169

Translation: This Author's Certificate introduces a percentage pulse-time converter which contains a control module, voltage comparison modules, a linearly varying voltage generator, a count pulse generator, coincidence circuits, OR circuits, a frequency divider, a switch, a digital pulse counter, pulse number counters. As a distinguishing feature of the patent, conversion accuracy is improved by adding another pulse counter. The outputs of the comparison modules are connected through the coincidence circuits to the counters, whose code outputs are connected to the inputs of the coincidence circuits. The other inputs of the coincidence circuits are connected to the code outputs of the additional counter. The outputs of the coincidence circuits are connected through the OR circuits to the digital counter and to the frequency divider.

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USSR

UDC: 532.517.4

SHAKHOV, V. G.

"Concerning the Hypothesis of Turbulence in Three-Dimensional Boundary Layers"

Tr. Kuybyshev. aviats. in-t (Works of the Kuybyshev Aviation Institute), 1971, vyp. 35, pp 102-109 (from RZh-Mekhanika, No 9, Sep 72, Abstract No 9B1112)

Translation: Assuming that the kinematic coefficient of turbulent viscosity in a three-dimensional turbulent boundary layer ν_t is determined by the values of the localized stress of friction $\tau=\sqrt{\tau_1^2+\tau_2^2}$, the density of the liquid ρ and some linear dimension l, the author finds

$$\nu_t=(\tau/\rho)^{1/2}l$$

from dimensional analysis. Here τ_1 and τ_2 are the components of friction stress along the directions of the principal and secondary flow. Assuming further by analogy with Newton law for laminar flow that

$$\tau_1=\rho\nu_t\partial u_1/\partial y,\ \tau_2=\rho\nu_t\partial u_2/\partial y$$

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USSR

SHAKHOV, V. G., Tr. Kuybyshev. aviats. in-t, 1971, vyp. 35, pp 102-109

(u_1, u_2 are the components of the averaged velocity along the directions of the principal and secondary flows), the author finds

$$\tau_1 = \rho l^2 [1 + (\tau_2/\tau_1)^2]^{1/2} (\partial u_1/\partial y)^2$$

$$\tau_2 = \rho l^2 [1 + (\tau_1/\tau_2)^2]^{1/2} (\partial u_2/\partial y)^2$$

Then, following L. G. Loytsyanskiy, the author accounts for molecular transfer to molar in his expressions. In conclusion, an expression is derived for heat flux

$$q = \rho \frac{\nu_t}{P_t} \frac{\partial H}{\partial y}$$

P_t is the turbulence number, H is the averaged value of the total enthalpy.
A. S. Ginevskiy.

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